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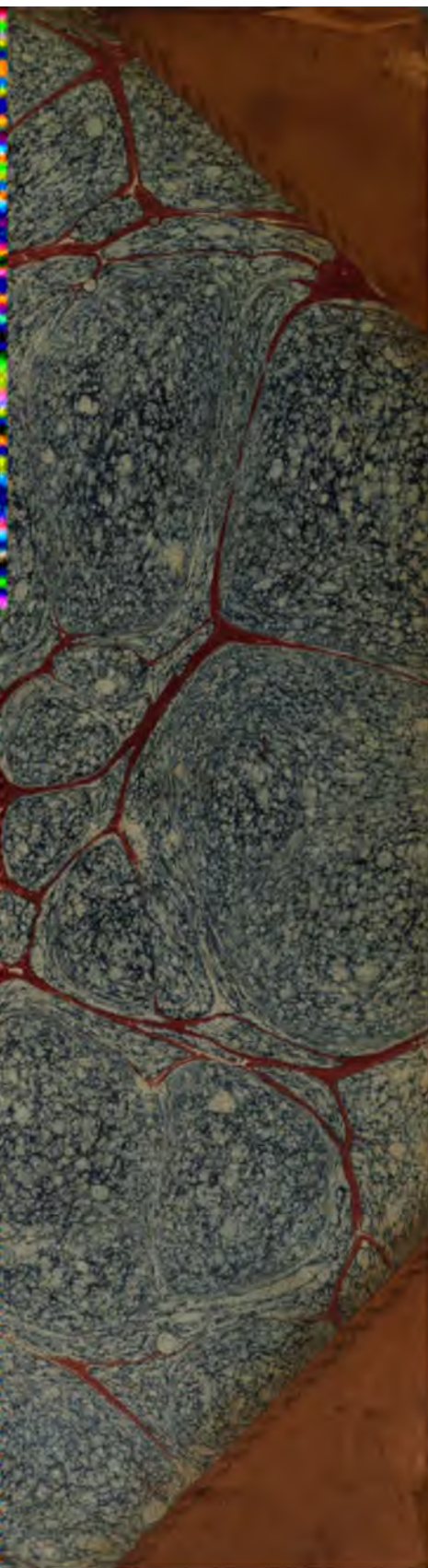
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THE
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AND
J O U R N A L
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PRACTICAL REMARKS ON THE DISCRIMINATION AND APPEARANCES OF SURGICAL DISEASE; with an Appendix, containing the Descriptive Catalogue of the Author's Collection in Pathological Anatomy; and the Hunterian Oration for 1833. By *John Howship*, Surgeon to Charing Cross Hospital, &c. London: John Churchill, 1840.

THIS work must be considered as possessing an additional interest and claim upon us, from the demise, since its publication, of the author. Mr. Howship has always evinced great zeal in the cultivation of pathology, and many of his papers have been highly valuable. If we do not owe to him remarkable discoveries, we are his debtors for useful facts, and the volume before us contains, if we mistake not, a considerable share of them.

We do not know how we can better present an epitomized view of its contents than by referring to the introduction. In that, the author tells us, that the first affection adverted to, is a peculiar description of chronic pain in the head; and here discrimination at once confers the power of affording immediate relief. Derangement or disease in the maxillary antrum introduces some interesting illustrations. The next subject is interstitial or ulcerative absorption of the bones of the cranium; and here the very first illustration is calculated to give an instructive lesson, on the necessity for understanding the principles as well as practice of Surgery, that we may proceed with judgment and pursue a right course. The last case adduced under this title is extremely curious, and, in a physiological point of view, very important, on several accounts, especially as exhibiting the operation of a most curious law in the system, that where atrophy of the brain induces a diminution of its volume, the cranium generally follows its contents, by a correspondent change of external form; although M. Cruveilhier, in his admirable work on Pathological Anatomy, gives a very striking exception to the rule. The remarks next in order, regard fracture of the basis-cranii, in which we see the advantage of watching and noting the effects of accident for a series of years; a habit, which now and then furnishes the student with a diagnosis not otherwise to be acquired.

These comments are followed by remarks on specific disease in the cranium, and its contents. Scirrhus tumours in the diploe or in the fibrous tissue of the dura mater. Fungoid tumour in the eye and orbit, or in the dura mater; illustrating the different modes in which disturbance or des-

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truction of the substance of the brain may take place, from absorption, or disorganization. Next come a series of remarks on the phenomena and causes of congestion of the brain, including the powerful influence of mind in its production. Several of the cases may be truly said to possess great practical interest, in reference to the discrimination and treatment of this disease. The consideration of deficient development or subsequent wasting of the limbs, next follows; from affection of brain or of some part of the nervous system, leading on to a number of interesting and various practical illustrations.

The next condition of brain noticed is that of serous effusion; a condition, which may almost always be distinguished during life; and here it is satisfactory to observe, that where the existence of the disease is most clear, and where its progress has induced obvious enlargement of the cranium, a prompt recourse to active treatment may be attended with perfect and permanent recovery.

Injury of the head from the passage of the electric fluid through the brain, comes next in order; and here is drawn a curious and close parallel between the symptoms of concussion, extravasation, inflammation, and effusion, as induced by this cause, and as brought on by the more ordinary modes of external violence. Inflammatory affections of the brain offer some interesting distinctive features; and it may be remarked, that, when the excitement is superficial only, the symptoms may differ essentially, with the tissue principally involved, whether venous or arachnoid. The occasional and curious influence of abscess in the brain, near the origin of the olfactory nerve, in giving rise to a false sensorial impression is noticed, and practically illustrated. The formation of a large abscess in the lateral ventricle, without its having excited the least mental disturbance, is curious; but the production of several large abscesses in the substance of the brain (two of which abscesses are distinctly and demonstrably seen to be situated one within the other) is still more so.

The formation of hydatids in the brain may present symptoms by which this complaint may be distinguished from ordinary serous effusion, which it most resembles. *Ramollissement* of the brain should excite much close consideration and interest in the practitioner, from the discordance of opinion which still exists as to its cause, and consequently its treatment; while even its diagnostic symptoms are by no means uniformly admitted or generally understood. The practical illustrations under this title may, it is hoped, be regarded as affording some useful and important light.

Effusion of blood within the head is next considered; and whether from an internal or external cause may generally be discriminated. The severely painful affection, *tic douloureux*, was long supposed to affect only the nerves of the face; but experience has shewn the more extensive range of its influence; and the cases demonstrate its direct power of deranging not only the nerves of sensation in the body and limbs, but the various ganglia and organs supplied by the sympathetic system, the nerves of sense, and even the sensorium itself. The discrimination of the causes of compression of the spinal cord in the neck is important, and the agency of some of these causes obscure; several of the illustrative remarks on their operation will be found interesting and rare.

Tumour of the thyroide gland is not subject to much variety; it is oc-

casionaly liable to common inflammation and abscess, but very rarely indeed to scirrhus. The extent of infiltration into the cellular tissue, in the first case of bronchocele, is very extraordinary.

Chronic ulceration of the epiglottis, or larynx, easily distinguished, but nor easily relieved, is in fact one of the most distressing and embarrassing cases that can occur; the misery induced by this disease can be understood only by referring to the annexed illustrations. The remarks on scrofulous disease in the cervical vertebræ may serve to illustrate, in some degree, the symptoms and appearances. Malignant disease of the face, or of the tongue, is noticed principally to establish its diagnosis. Spasmodic stricture in the œsophagus furnishes several interesting practical remarks and illustrations: as simple spasm, as inflammatory spasm, and as occasionally incurring a state of stomach no less serious than the complaint itself. The observations on malignant disease in the same part may much assist in the discrimination of these complaints. Abscess in the œsophagus is shewn sometimes to prove fatal, but the illustrations also demonstrate that it may terminate favourably.

Affections of the heart and circulation next follow. Adhesion between the heart and pericardium; enlargement or hypertrophy; aneurism; rupture of the heart; are each practically illustrated. Of the formation of polypus in the heart, independent of the comments, two cases are given, which appear to prove most clearly, not only that these concretions may form during life, but occasionally cause death. On disease in the valves of the heart, the illustrative remarks and appearances may, it is hoped, be regarded with interest and advantage; urging the importance of the stethoscope, demonstrating the fatal result of the disease, and pointing out the means by which its early progress may be detected and checked.

Aneurism of the thoracic aorta presents an important subject for study, with a view to its discrimination; the practical illustrations here adduced are calculated to throw some interesting light on the symptoms, appearances, and treatment. Abdominal aneurism also offers some valuable practical illustrations; in three of the cases aneurism was cured, in one by an operation, in the two others by the natural process; one case is added, not of aneurism, but of disease simulating aneurism so closely as to defy all power of discrimination. The consequences of tumour formed in the coats of the aorta, near its origin, are shewn in two curious and interesting cases. Where the course of the circulation is interrupted by obliteration or obstruction of the aorta, the facility and efficiency with which the collateral circulation may be established, is most admirable and astonishing. Next follow remarks on obstruction from varicose enlargement, or from inflammation, of the veins; the discrimination of these complaints being assisted by a variety of practical illustrations. Obstruction to the circulation from local disease of viscera, gives rise to much interesting illustration of various kinds. The first case mentioned of soft white tubercles surrounding the large vessels of the heart, is believed to be of rare occurrence.

The remarks on the symptoms and discrimination of inflammation in the lungs, and its consequences, in various forms of effusion, may, it is hoped, be found useful at the bed side; they are illustrated by examples of hydrothorax, empyema, abscess, or ulceration with hæmorrhage, hæmor-

rhage without ulceration, and, lastly, tubercular disease. Then come the symptoms and discrimination of disease in the liver, commencing with inflammation, acute and chronic, abscess, purulent hydatid cyst, and serous hydatid cyst. Irritation from biliary calculi introduces several exceedingly curious and interesting practical illustrations; among which may be mentioned the enormously enlarged ducts within the liver, in the absence of a gall-bladder; the detection of permanent spasm of the gall-ducts; the escape of calculi by ulceration; and the large fungoid tumor, with a collection of calculi in its centre.

These are followed by affections of stomach, spasm, inflammation, effusion, ulceration, mortification, hæmorrhage, and organic or specific disease. Then succeed the diseases of the intestinal canal; altered action of the mucous exhalants, separating albumen, pus, or blood; deranged muscular action or spasm, with the means for more efficiently detecting its existence and precise seat, noticing certain very peculiar symptoms, probably the result of reflex irritation, obstruction, and intus-susception, inflammation and ulceration of the mucous tissue, and occasional influence of ulceration on the nerves of the lower extremities, abdominal abscess, and specific disease in the bowels.

In the last place are described the various forms and appearances of hernia, some of the illustrations of which are believed to be very rare; the case of thyroideal hernia, especially, presenting a diagnostic symptom that appears not to have been before observed.

In a work made up of miscellaneous facts, like the present, a systematic analysis would be impossible. All that can be done is to select those observations that are likely to be useful or are novel, and lay them before our readers. The genius of medical literature in this country, and the practical tastes of the profession are not altogether repugnant to works of this description.

ON CHRONIC PAIN IN THE HEAD RELIEVED BY INCISION.

There are, says Mr. Howship, certain cases of chronic pain in the head, occasional or constant, from injury or otherwise, generally seated in one spot, over which the scalp is painful, tender, and somewhat tumid; in which medicine is of little or no use. In these cases, a division of the scalp, by an incision, carried across the spot down to the bone, will prove the most efficient treatment.

The relief experienced from this operation is such as can only be explained in the light afforded by pathological anatomy, which enables us to see that, in many chronic affections of the scalp, the membranes of the brain, and especially the dura mater, participate; inducing pain, and all the ill consequences of congestion of the brain.

Mr. Howship relates two cases. The first was that of a lady aged 31, who had suffered from pain in the head, for years, in spite of all medical treatment. Division of the tumid and tender scalp gave immediate and permanent relief.

The *second case* is still more interesting. H. D., a coachman, a sober man, complained of severe pain in the head, distressing him many years,

and of late so severe that he was scarcely able to sit on the box; and when up, dreaded the attempt to get down. Medicine useless; nearly distracted, and tired of his life. He said that, sixteen years before, he struck his head, by a fall, upon some soft meadow ground; that from the confusion that followed he soon recovered, but became subject to pains in the head, especially in the seat of the injury, over the left parietal bone, where the scalp was still sore, painful, and puffed. Mr. Howship cut through the scalp and thickened pericranium, down to the bone, which was uneven and rough, but not carious. The night before this operation he had not slept five minutes, from severe pain, but said he felt relief the moment the bone was exposed, and the following night rested better than for months before, getting three or four hours' refreshing sleep.

The wound nearly healed in a month; the old pain partially returned, with a sense of numbness in the side of the face, as before the operation; but the wound again suppurating, remained open several months longer, and then healed permanently. From this time he lost all his complaints; continued well; and some years afterward told Mr. H. he never was in better health than he then enjoyed.

ON ULCERATIVE OR INTERSTITIAL ABSORPTION OF THE CRANIUM, FROM IRRITATION OR INJURY.

Mr. Howship was consulted by Mr. B., a gentleman who stated that, thirty-two years previously, he had suffered severely under the removal of nearly the whole necrosed right, and part of the left, parietal bones, from syphilis. He recovered his health, and for very many years remained well, with a large depressed cicatrix, beneath which was a smooth expansion of new bone, deposited in the granulations from the dura mater.

Lately, he had been rendered extremely uneasy, by a part of the cicatrix spontaneously ulcerating, without local pain or other sign of ill health. The ulceration extending, a few thin, small scales of new formed bone came away. Within a fortnight he was attacked, for the first time, with gout. The ulceration healed, although his gradual recovery occupied several months; but there was no subsequent return.

Mr. Howship conceives that it was the irritation of the latent gout that gave rise to the inflammation. We are not so sure of this. Disease of the bones, after syphilis (probably mercurial), is very apt to recur without any ostensible cause, and it might as well give rise to the gout, as the gout to it.

"Occasionally," says Mr. H., "from external injury, in young children, some extent of the skull has been removed by interstitial absorption. If blood be effused beneath the scalp, leeching may lessen its quantity: but if not, should it be let out—and when? An early opening may add a second irritation to the first; and any delay in letting it escape may perhaps operate to induce absorption of the subjacent bone. As a rule, I think it best to make an early opening." 7.

Mr. H. relates two cases that occurred in children. We shall introduce one.

Case.—T. G., aged three years, fell down an area, struck the back of his head, and was taken up senseless. Under proper treatment he recovered; but a month after, a considerable tumour remained just above the lambdoidal, and over the sagittal suture. The elevated scalp soft and yielding; the pulsation of the brain was distinctly perceived in the tumor, even by the eye; so that any opening incautiously made through the scalp might have injured the dura mater or brain, and destroyed life. The opening in the skull was three inches long and one broad; the ossific margin in parts presenting a raised and compact, or slightly tuberculated edge.

Neither is this liability to absorption from external injury confined to an early period of life. In one instance, Mr. H. detected a small opening produced in the vertex of the skull, through which the brain pulsated, in an aged woman; the consequence, she said, of a bruise from a blunt iron, many months before; yet productive of little pain or inconvenience.

Mr. Howship mentions the particulars of a curious

Case of Extensive Absorption and Necrosis of the Cranium, with Atrophy of the Brain.

R. H., aged 36. who stated that she had never had syphilis nor used mercury, had suffered for the last fourteen years from extensive necrosis of both parietal bones; the separation of numerous pieces from both jaws, with or without teeth; portions of the left frontal bone; the angle of the right lower jaw; and more recently the mastoid process of the right temporal bone, which came away by the mouth, while the attachment of the sterno-mastoid muscle nevertheless remained undisturbed.

On the superior part of the right side of the head, the brain appeared to have been adequately defended by a formation of new bone beneath the extensive cicatrix upon the scalp, where pulsation, formerly obvious, could not now be felt.

The most curious point, however, in this case is, that although the deficiency of bone in the cranium is partially supplied, the form of the skull has undergone an astonishing though slowly progressive change. The right side of the cranium has sunk to a much lower level than the left, the corresponding hemisphere of the brain having sunk also, in consequence of progressive atrophy of its substance; for the configuration of the head demonstrates that in this direction the cerebrum must have undergone absorption of a part of its mass, nearly or quite equal to one pound weight. It is remarkable, also, that in this case the deficiency in the cerebrum being principally on the right side, the defective condition of the nervous and muscular powers of the limbs is on the right side also.

The superior part of the frontal region has at the same time sunk extensively on both sides, completely changed the aspect of the profile. The mental operations are remarkably disturbed. The only medicine that has been of any service in relieving the extreme feelings of irritation that exist about the head is sarsaparilla.

"This extremely interesting and curious change in the frontal bone, I mentioned to a gentleman well known for his distinguished labours in phrenological science. I supposed it new; but he immediately pointed to a cast demonstrative of a similar change in a late illustrious personage,

who, in the decline of intellectual power, sustained a great diminution in the volume of the anterior lobes cerebri; the sinking of the cranium, insensibly following the declension beneath it, from absorption of the brain; as proved by the casts taken."

Fracture of the Basis Cranii not fatal.

There can be no question that fatal as this accident usually is, it occasionally does not prove so. Mr. Howship relates two interesting cases of recovery. One we shall introduce.

Case.—T. C., 68, fell down stairs, upon his head. Blood flowed freely from the mouth and ears, through the night; the discharge from the ears subsequently becoming purulent. Symptoms of concussion were soon relieved.

Six months after, with much pain at the back of the head, he could obtain sleep only with the back of his head on a pillow, but not on either side; and was often obliged to sit up in bed all night, holding his head with his hands. Occasionally he was delirious and rambling, but never violent, with severe pain in the night, always less in the day.

Two years after the accident, this man still rested very badly; subject to stupor and giddiness, even in the day, and often starting suddenly up in the night, as if delirious, when not so. One night he jumped up in bed, and began talking strangely; his wife accused him of being light-headed, but he said no, he was perfectly awake, and sensible.

"It appears to me, then, that where a patient, under injury of the basis of the cranium, may have partially recovered; by the presence of the symptoms just noticed; bleeding and suppuration, in one or both auditory passages; congestive and uneasy feelings, about the basis of the brain; want of power to bear pressure on the head, and the mild nocturnal delirium; the practitioner may be instructed to give a guarded and cautious opinion, as to any eventual restoration to perfect health." 15.

TEMPORARY AMAUROSIS, FROM AFFECTION OF THE OPTIC NERVE.

It would appear probable, says Mr. H., that a temporary amaurotic blindness may, now and then, arise from a transitory suspension of power in the optic nerve, in which, from the undisturbed state of the organ of vision, on the one hand, and the absence of any sign of congestion or affection of the sensorium on the other, we seem obliged to admit that the defect must be confined to the optic nerve; the temporary character of the attack at the same time forbidding the inference of existing organic disease.

Case.—Mr. F., aged 30, mentioned to Mr. Howship a curious affection of sight to which he was liable, about six years before. He had a feeling of numbness in the right eye, and, within a minute, total loss of sight, so that he could not perceive the flame of a candle when held to it. This lasted three or four minutes, and then gradually subsided; at first he would see the light without distinguishing objects, and in ten or fifteen

minutes was quite well. This attack, which returned twenty or thirty times in the space of six months, was never attended, preceded, or followed by pain or other complaint in the head. He had requested a medical friend, more than once, to look at the eye during the attack and compare it with the other, but he could discern no difference between the two.

ON DEFICIENT DEVELOPMENT OF PARTS.

Mr. Howship alludes to a series of cases having one character in common, that of deficient growth or development, or a wasting of the muscular structure of the limbs, in consequence of affection of the brain from which the nerves proceed, or of disease in the vicinity or course of these nerves.

These complaints are all essentially characterized by an inadequate transmission or unequal distribution of nervous influence.

Mr. Howship relates two cases of paralysis and deficient development of the limbs, arising from the cerebral congestion produced by teething. We quote one.

Case. E. F., a healthy child, eighteen months old, from the irritation of dentition, suddenly lost the use of the left side; she was no longer able to stand on the leg or move the arm, which, if raised, fell powerless. Mr. H. directed a blister to be kept open on the neck, and the bowels to be cleared. In a week she was able to stand a little; the improvement more slow in the arm, the fingers could only be partially moved in a month. In three months apparently recovered; in six months the blister was allowed to be healed.

It was curious to observe, during subsequent growth, the deficient symmetry in the two sides. At thirteen years, the left arm was much smaller, and one inch and a quarter shorter than the right; a similar deficiency also existing in the leg. At eighteen, the left arm measured one inch and a half less in length than the right; and the left leg, only two-thirds the circumference of the right, was two inches shorter than the other. She was still unable perfectly to extend the fingers of the left hand, but could walk firmly and freely.

Mr. H. also gives a case of deficient development of the right arm and leg from congestion of the brain, produced by fever. From these he passes to cases of another sort.

1. *Case of deficient Development from External Injury.*—E. T. 14. Fell down stairs when four years old, and bruised the hip. She subsequently had repeated abscesses about the hip-joint, followed by slow retraction of the limb. The retraction eventually subsided, but the deficiency in growth remained. Mr. H. found, on examination, the hip-joint sound, but the affected leg much emaciated, very weak, and, when measured, four inches shorter than the other.

2. *Case of deficient Growth, from Cold, by sitting on Damp Grass.*—C. C., æt. 20, when two years old, was carelessly laid on the left side upon

some damp grass. She took cold, her left leg became weak, and some time after was observed not to keep pace with the other in growth, becoming thinner, smaller, softer, and shorter. On comparing the limbs together, Mr. H. found the left leg and thigh very much smaller and weaker, and three inches shorter than the right; and as to power, she was not able to walk more than a quarter of a mile a day.

"In several cases of chronic dysentery, I have seen lameness and wasting of the lower limbs; in one particularly, in a young man, the patient became perfectly and permanently helpless, the thighs drawn up, the legs completely retracted and incapable of motion. In these affections the diagnosis will be sufficiently easy: the absence of any organic disease in the limbs and the presence of symptoms demonstrative of dysenteric irritation in the bowels, cannot fail to explain the character of this complaint." 32.

Mr. Howship adds, that the mere act of volition, unequally exerted, the mere habit of using one limb more freely or frequently than the other, may lead to the same result; as in the following case.

Case.—J. C. a strong, healthy man, applied for a high-heeled shoe, his left leg being shorter than the right. He said he was very well till bound apprentice to a turner, he found that standing constantly on the left leg, and working the treadle as constantly with the right, pain often distressed his left knee, and the limb gradually declined in growth.

On comparing the limbs, Mr. H. found much enlargement about the left trochanter, apparent shortening of the neck of the femur, and a degree of stiffness, at first appearing to arise from ankylosis. The left, just three inches shorter than the right leg, was extremely thin and deficient compared with the right, which was muscular, large, and vigorous.

EFFUSION OF SERUM WITHIN THE HEAD.

Mr. Howship remarks, what we confess gives rise to some misgivings in our mind, that—"There is an occasional symptom especially diagnostic of external hydrocephalus or effusion between the membranes; when present, I should say it is impossible to mistake the seat of the deposit. One of the cases in which I observed this symptom most distinctly was the following."

Mrs. D., 53, with hydrothorax and anasarca, was for years subject to occasional attacks in the head, in which, always disposed to doze, her senses were observed by all her family to be yet awake to the lightest and least impression; but the peculiar symptom was this, that, whether in the night or day, she would be at one and the same time light headed, yet perfectly sensible; speaking to herself incoherently, yet, if spoken to, answering clearly and rationally. On examination, Mr. H. found abundant serous effusion between the membranes, but no accumulation in the ventricles.

Dryness of the Pia Mater.

Mr. Howship has never witnessed but one case of this.

Case.—J. S., 37, of sober and silent temper, complained of violent pain

in the head and loins; the latter arose from red gravel, which was occasionally passed with the urine. The violence of head-ache made him stagger and affected his sight, yet he could get no sleep. In dressing his horses, it was often expected he would get kicked, for he frequently went to the heels instead of the head, not seeming to know what he was about. Mr. S. visited him before his death, to draw off his urine; the eyes insensible to light, the pupils dilated, and the mental and physical powers entirely oppressed. The next day he died. On laying aside the dura mater, Mr. H. found the arachnoide and pia mater unusually dry, just as if exposed for twenty-four hours in a warm air, so dry as to feel positively firm and crisp. The ventricles contained about four ounces of serum; the medullary substance of the brain was so firm, that the cavities did not even partially collapse on the escape of their contents.

ON INJURY BY LIGHTNING.

“In my Course of Lectures on Surgery, I am in the habit of comparing concussion of the brain from external violence with the impression induced by the electric shock; but, on following out the parallel, it becomes extremely doubtful whether concussion should be selected in preference, when so many widely different results also arise from this peculiar description of injury. It may be supposed scarcely necessary to devote much pains to ascertain the cause when so active an agent has been concerned, for these phenomena loudly proclaim themselves; and if instant death was the invariable result in every such case, it might be an inquiry of comparatively little importance; but when we find that all the various effects of injury from other causes are occasionally produced by lightning, we see the evident and high importance of considering and discriminating as correctly as possible, not so much the cause, as the precise changes of condition to which it may have given rise, in order that we may thence be enabled to decide with advantage upon the most appropriate treatment.” 41.

Mr. Howship adds that, as the injury sustained depends not on the quantity but the intensity of the electric fluid, the influence of one and the same shock will occasionally induce strange diversities of effect, according to the position of individuals or the conducting power of substances near them at the moment of the accident.

One of the most remarkable circumstances regarding the effects of the electric shock on the living body is this; that while the mildest power incurs only a slight, sudden, contraction in the muscles, with sense of pain in the nerves, ligaments, and joints, and a more severe shock excites violent convulsive action, the most severe shock, demonstrating the greatest intensity of power, is productive of effects of a diametrically opposite character. The rapidity of thought is proverbial, and the quickness with which the convulsion responds to the passage of the ordinary electric shock, is sufficiently remarkable, but under the greatest intensity of power, the passage of the electric fluid seems too quick even for the nerves themselves; for instead of the body being most violently disturbed, it is not moved at all; and if the person was sitting by the fire, or asleep, he so remains to all appearance, until discovered to be dead.

Where sudden death is thus produced, it appears that the transmission of the shock through the body at once exhausts the vital power, and com-

pletely destroys the living principle ; and this takes place with such inconceivable rapidity as to effect its purpose before even the nervous system can take the alarm ; and that the living principle is instantly destroyed, in the solids and fluids, is evinced by the muscles not stiffening, the blood not coagulating, and the whole body sinking almost immediately into putrefactive decomposition.

Mr. H. relates several cases—one of slight injury from lightning, which merely produced red marks in the skin of the back, of a delicate arborescent character, not painful or elevated, but slightly heated—another case, in which a stroke of lightning gave rise to all the symptoms of concussion of the brain—a third case, in which, after a lightning stroke, concussion, followed by violent tremors and febrile excitement, terminated in purulent effusion between the membranes of the brain—and finally, several other cases in which the effects were such as would ensue from rupture of a blood-vessel in the cranium.

Mr. Howship relates some interesting cases of *Abscess in the Brain*, without, however, we are afraid, rendering our diagnosis much more certain. Speaking of *Hydatids in the Brain*, he observes (we wish we could be so confident):—The distinguishing symptom here appears to be an occasional attack of convulsion or insensibility, which scarcely disturbs, in the least degree, the intellectual functions; from which attack, where the case presents in its most simple form, the patient is absolutely restored to his activity of body and clearness of mind almost in an instant, the attack coming on and going off suddenly.

ON RAMOLLISSEMENT OF THE BRAIN.

Mr. Howship makes some observations on the causes and on the treatment of this serious affection. After noticing the inflammatory hypothesis of *Lallemand*, and the opinion of *Rostan*, that it depends on a morbid state of the cerebral vessels, he remarks:—

“My own opinion is with *M. Rostan*, that ramollissement may arise as an accidental consequence of inflammation, yet that it certainly does often occur without any evidence of preceding inflammatory excitement. But I also believe that it may take place without inflammation on the one hand, or disease of blood-vessel on the other. The importance of this opinion, if correct, must be at once admitted, seeing that it presumes the disease to be, in certain cases, so far more within the reach of relief, than was before supposed. I feel assured it may arise in this way, and that in two cases to be presently related, it did so arise, from excessive mental fatigue, inducing long continued congestion of the brain ; and in one of these cases it will especially be seen, that the adoption of an antiphlogistic course would soon have destroyed life, but that a watchful attention to the indications that presented, and the persevering direction of the most powerful tonics and anodynes, proved the obviously efficient means of saving and restoring the patient.” 58.

Mr. Howship criticises the sentiments of *M. Rostan* on the incurability, or something very like it, of ramollissement, and then presents us with an account of the symptoms as they have occurred under his own observation.

"We now then come to the symptoms, by which ramollissement may be discriminated. As I have seen them, they may be said to include the following. Occasional pain, uneasy feelings or giddiness in the head, the impressions through the senses disturbed, the least sound insupportably agonizing, moderate light distressing, the feelings now and then so acute, that the lightest touch extorts most piteous cries, the sentient nerves in the extremities deranged, with feelings of numbness, or of a sandy sensation about the toes and fingers, stiffness in the limbs, rendering the walk unsteady or unsafe, the temper of mind changed to extreme impatience, uncontrollable dejection, or absolute indifference, total want of sleep, or, when dozing, disturbed by most frightful dreams, the mental faculties invariably affected, perception slow, judgment difficult, memory feeble or false, imagination gone, ideas confused, the patient dreads and perhaps cannot endure the least conversation, or if for a few minutes exposed to it, subsequently sinks into the most alarming state of exhaustion. As the disease advances, the patient, especially under the least mental occupation or excitement, is liable to a sudden attack, something between coma and convulsion, in which, although deprived of utterance, and to appearance near death, he is perfectly conscious of his state. From this attack he revives, and after an uncertain interval sustains a return, more severe than before, perhaps with paralytic symptoms, under which he at length sinks.

These then are the leading symptoms. They rarely all occur in the same individual, but the presence of any two or three of them would be sufficient to enable the attentive practitioner to discriminate this most fearful disease. If, for example, the sensations described in the head occurred in connection with the morbid acuteness of sensation in the skin or in the ear, together with any of the other symptoms, they would offer a combination, which, regarding its steady permanence, could scarcely be supposed to be the consequence of inflammation, hysteria, or any disease we yet know of, except that now under consideration." 60.

Mr. Howship relates several cases of fatal ramollissement, and two instances of cure. We shall introduce the shorter of the two, and leave it to our readers to decide what degree of credit they will attach to the belief that the affection was really cerebral softening.

Case.—Mr. F. 50, a gentleman in the law, long subject to uneasy feelings in the head, had to visit Chester. Anxious occupation through the preceding week, in considering and arranging the various causes for trial, had made him much worse; and when in court, in the midst of his duties he fainted outright, sunk down completely powerless, and slightly convulsed, yet conscious, hearing all that was said, although unable to speak. Dr. Thackery saw him, and directed aperients, spare diet, and quietude. A relative went down, brought him to London, and Mr. Howship found him complaining of frequent returns of violent shootings through the right temple, and faintings; also a sense of numbness all through the right side, with sandy feelings in the hands and feet. Dr. Hooper visited him with Mr. Howship; his bowels were kept freely cleared, which, with an occasional gentle opiate at night, light diet, and the most perfect quietude, were beneficial. The fainting fits and feelings of exhaustion became less frequent and less severe. The pulse, never excited, was now soft and small, at sixty. The strength and power in the limbs, in the course of a month, much improved; and the preceding distortion of the features and closing of the left eyelid, had quite disappeared. He still walked with a stiff and awkward gait, the soles of his feet not seeming to himself to feel

the floor ; and so weak, that one morning he fainted on the night-chair, and being alone, fell to the ground.

As to the previous affection of sight, he told Mr. H. first came the double sight, then the sickness without vomiting, and then the fainting in court. The double sight was not strictly so, but a multiplying of one object to many. Or, if he took a pen and put it down on the paper, it was placed half an inch away from where he intended ; and when he had written, he found it was in the wrong place. He observed there was the same error in kind now, only much diminished in degree. There was also a little flickering in his sight still ; but otherwise he felt quite as well, and even better now, than before he left town.

For many subsequent weeks, this gentleman was directed the *vinum ferri*, the shower bath, a nutritious diet, and wine ; the bowels being constantly attended to. Under this plan, he so far recovered as entirely to lose all his complaints, except that he had still a very slight sense of occasional sandiness in his hands, a peculiarity in feeling which remained so late as six years subsequent to the attack.

We certainly know of no positive reason why *ramollissement* of the brain should not in its earlier stages be curable. The difficulty is to say when the affection really exists, or, rather, when *such* a morbid lesion *has been* cured.

We pass over several subjects, to pause at two, not very common cases, one of inflammation, the other of abscess of the thyroid gland.

CASE.—Inflammation in the Thyroid Gland.—J. D., 16, took a severe cold, the submaxillary glands becoming somewhat, and the left lobe of the thyroid gland more, enlarged. Mr. H. found the latter swelling firm and hard ; the skin covering it dry and hot. The tumor, closely attached to the base of the larynx, moved with it in deglutition. For a day or two, with heated skin, quick pulse, and white tongue, stinging and shooting pains were severe. A grain of calomel, *ter die*, in a few days subdued the symptoms, and he was relieved from all uneasiness ; the indurated and horny feel of the swelling subsequently, but slowly, subsiding.

CASE.—Inflammation and Abscess in the Thyroid Gland.—A mail guard, exposed to a deep snow, took cold, felt poorly and stiff about the jaws ; inflammation settling with much heat and tumor about the larynx and trachea, impeding respiration to an alarming degree. The tumor, heated and red, was firm as horn, with feverish disturbance. Although the larynx was nearly fixed, it was evidently enough inflammation of the thyroid gland. Poultices and fomentations, assisted by tonics, in a few weeks induced suppuration, and the abscess broke and discharged several ounces of pus, to his relief and comfort. He now breathed more freely, and rapidly improved in appetite, spirits, and strength ; the abscess healing in about three weeks.

SUPPURATION IN THE SUB-MUCOUS CELLULAR TISSUE OF THE LARYNX.

We notice the following case for reasons that we shall state immediately.

Case.—A. B., 30, had a succession of acutely painful, and actively suppurating boils, on the thigh, forearm, and back of the hand. When the ulcer on the forearm, which had discharged portions of fascia and tendon, had been open nine or ten days, the secretion of pus suddenly diminished, and in two days ceased entirely; and on the same day he felt uneasiness in his throat. In a few days, respiration became impeded, from some cause, situated evidently in the larynx. Towards evening, the difficulty in breathing was alarming, his features betraying most extreme anxiety and distress. Supported in bed, a consultation was immediately called; antispasmodics directed, and a blister laid on the chest; at six A. M. he expired.

Post mortem.—The cause of death was confined to the thyroide cartilage, the space within which had been so restricted as to produce suffocation. The cartilage divided, the cellular tissue connecting the mucous membrane to the cartilage was inflamed, thickened, and diseased, especially just beneath the arytenoid cartilages, where it formed a spongy, elastic cushion, projecting from each side, and closing the passage into the trachea. This spongy substance, cut into, numerous globules of a thick purulent matter started forth; the colour and consistence of the pus, and other circumstances of this case, presenting a strong analogy to the character of carbuncle.

We draw particular attention to this case, because it is the representative of a class. It is, unfortunately, far from uncommon for a patient to complain of what seems and is treated as a simple sore-throat, and suddenly to be cut off. On examination after death, suppuration is discovered in the sub-mucous cellular tissue of the larynx. It is hard to lay down any diagnostic signs of this affection. But when the symptoms seem severe beyond their apparent cause, and the expression of distress is disproportioned to it, we should recollect the possibility of suppuration and beware.

STRICTURE OF THE ŒSOPHAGUS.

“In the detection and treatment, the superiority of the silver ball and elastic curved wire, over the ordinary instrument, the bougie, cannot be too much insisted on, exciting much less irritation, and conveying much more information, as to the state of the pharynx, the precise extent of the contraction, and exact condition of the œsophagus below.” 93.

The following case is not devoid of interest:—

CASE.—*Inflammatory Spasmodic Stricture of the Œsophagus.*—“Mrs. E., 63, from severe cold and sore throat, had great and increasing difficulty in swallowing. Afraid of losing a desirable situation, she concealed her complaint, and foolishly neglected her health, until, from want of support, she became emaciated, typhoid, and so weak that she could not stand. In this state I found her, with black and parched tongue, small rapid pulse, hot skin, and thirst. With difficulty I persuaded her to let me introduce the smallest silver ball to a contraction at the bottom of the pharynx, which the instrument would not pass. Unable to take medicine, incapable of taking food, and evidently perishing from want, she was nevertheless sufficiently obstinate to throw away still more valuable

time, in resisting for several days her daughter's entreaty and my persuasion, to allow the instrument to be again introduced. She then did submit, and I soon passed the stricture, so that now she could get down small morsels of meat. But now another difficulty arose, for although the food passed fairly down, it was almost directly rejected again. It appeared that the stomach, so long inactive, had become so irritable and contracted, as to be scarcely capable of relaxation; a difficulty in which medicine appeared likely to be of little service. She was therefore enjoined to persevere in taking nourishment, solid or fluid, in small quantities, frequently repeated, notwithstanding its rejection. This she did, and soon began, very gradually to improve. The feverish excitement slowly subsided, the power of retention returned, the strength was restored, and she perfectly recovered." 96.

We are induced to believe that patients are occasionally treated for stricture of the œsophagus, as for stricture elsewhere, without any just occasion. Nor is the mistake always a harmless one. Bougies in the hands of those unaccustomed to them are sometimes dangerous weapons, nay, they may be so even in good hands. Sir A. Cooper used to relate a case which occurred to Sir E. Home and himself. He had found a difficulty in passing an instrument down the œsophagus; Sir E. Home was called in. He took the instrument, passed it in good style, and injected through it milk and water into the stomach. Violent symptoms soon set in, and in a few hours the patient died. On examination, the milk and water were found in the posterior mediastinum! and we have seen a bougie take the same route in overcoming a stricture which was not in existence.

MALIGNANT DISEASE IN THE ŒSOPHAGUS.

"The discrimination of malignant disease in the œsophagus may, under some circumstances, be doubtful, but where the complaint has existed some time, and the symptoms are considered with care, the seat and cause may almost always be determined with precision. In some few cases, exhibiting every peculiarity of scirrhus structure, the characteristic pains have not been apparent; but the exceptions are extremely rare.

The presence of the peculiar heat and darting pains of scirrhus, may be held fully to establish the existence of this disease, while their absence only leaves the question doubtful. The discrimination of soft cancer, or fungoid tumour, may be assisted by recollecting, that the constitutional tendency in this disease is always to irritation; a condition, the presence of which will always render its existence probable; and, if seated in the upper part of the œsophagus or pharynx, there may even be the peculiar darting pains along the eustachian tubes observed in scirrhus." 97.

We confess that we have witnessed cases of malignant disease in the œsophagus, more particularly of the fungoid kind, unattended with pain, or with any other symptom than difficulty of swallowing. In one or two of these cases their real nature has been dubious, and the diagnosis mainly hinged on the peculiar aspect of the patient. The following case is not un instructive.

CASE.—*Stricture from Fungoid Tumour in the Pharynx.* Mrs. H., 36, had been some years subject to aching pain and difficulty in swallowing,

whenever she took cold, a complaint first felt in a severe sore throat. The small silver ball would not pass an obstruction at the lower part of the pharynx, from whence a ropy mucus was freely excreted. The throat exhibited no appearance of disease, but externally, the right side, opposite the larynx, felt rather full, soft, and tender to the touch. Although the obstruction in the œsophagus was spasm only, the instrument often introduced, during several months, could not by gentle pressure be made to pass beyond it. The pulse, weak and small, was liable to high excitement from the slightest cause. The local distress was a difficulty in swallowing, and in passing flatulence; occasionally the throat felt heated and painful, shooting laterally to the ears.

The stricture not relieved, the instrument was laid aside. Once, at her urgent request, introduced, it passed only to the contraction, and brought up some minute fragments of a soft solid substance, as if from the ulcerated cavity of a medullary disease. She continued to sink, and, after five months' suffering, died.

Post mortem.—Mr. Howship found the cellular tissue at the posterior part of the pharynx infiltrated with a pulpy white matter, as in soft cancer: this deposit at the right side of the pharynx having formed a tumour, and ulcerated through the mucous membrane; and into this cavity the instrument had passed on the occasion of its manifesting the characters of the disease.

A longitudinal section down the posterior line of the pharynx demonstrated the muscular structure, converted into a brownish, semitransparent, soft substance. The mucous membrane was extensively ulcerated nearly round the cavity, and almost the whole depth of the pharynx. The stricture, still contracted, was somewhat thickened; below this point the œsophagus was healthy.

We have seen a very similar case, and, in that, the instrument passed into a cavity in the fungoid mass. How careful, then, we should be with instruments! The gentlest manipulation, the most cautious judgment, are requisite in treating these cases.

ABSCESS IN THE ŒSOPHAGUS.

The formation of matter, says Mr. H., between the coats or in the cellular tissue of the œsophagus, is, in common, easily discriminated. The probability of such an event may sometimes be inferred from preceding injury, although accidental cold or constitutional predisposition may induce it.

This event is announced by febrile excitement, local sense of heat, throbbing, and tumor, with pain and difficulty in swallowing. The sudden rejection of purulent matter may demonstrate the fact, but the course and event of the case will be still uncertain, dependent on the seat, extent, connexion, and tendency of the abscess, and no less upon the manner in which it has opened; points that cannot always be determined with precision.

We confess that we have seen cases of suppuration between the coats of the œsophagus by no means so easy of discrimination as this would

lead us to imagine. The difference consists, we apprehend, in the fact of the suppuration being circumscribed or diffused. If the former, diagnosis may be easy—if the latter, obscure. We may cite an instance of the former.

Case of Abscess in the Œsophagus.—S. N., 28, with severe cold, felt swelling in the throat, just opposite the top of the sternum, acutely painful, especially in speaking. Of this she got better, and nearly recovered, but the symptoms soon returned with increased violence. She was awake in the night, nearly suffocated with an acutely painful swelling situated just behind the root of the trachea, which, in the attempt to swallow, felt as if the part was turned over. The spot in front of the trachea, she said, was extremely tender to the touch. Easy in that position, she was obliged to remain sitting up through the night, with great anxiety, but little fever. In the morning, endeavouring to swallow a little tea, it went down to the swelling, but no further; and with cough and violent straining it suddenly returned, together with a considerable quantity of yellow thick pus. She felt instant and great relief, from pain, swelling, and dyspnoea, rapidly improved, and soon recovered.

Mr. Howship relates no case of diffused suppuration. The symptoms, such as we have seen them, have been rigors, pyrexia, uneasiness about the throat, anxiety, low fever and delirium, death.

We may introduce another case of circumscribed abscess and ulceration of the Œsophagus, related by Mr. Howship, and ending fatally.

Case.—Miss L., 62, under care of Mr. Carrick, had uneasiness at stomach, some difficulty in swallowing, and occasional regurgitation of food, from supposed dyspepsia. Solids, in small morsels, went down slowly, exciting a dull, heavy pain, extending from the pit of the stomach to the back bone; otherwise in health. The appetite was good, yet nearly every thing returned, sometimes with a ropy mucus. Nutritive clysters ordered, when combined with an opiate, soothed and allayed the feelings. For some weeks, as much as several pints of glairy mucus was rejected daily; stools clay-coloured, and destitute of bile. Injections of gruel came away in an hour, but those of mutton broth remained quiet altogether.

In about a month she felt something give way, apparently where the tender and painful obstruction had existed, and pus, streaked with blood, was rejected by the mouth. She could now swallow, bowels acting, and stools tinged with bile. Instead of a quart of mucus daily, she now spit only a little pus, but complained of occasional flushes of heat. About a fortnight after this, she gradually declined, sunk, and died.

Post-mortem.—In the right chest we found the healthy and partially adherent lung floating in nearly eight ounces of fetid pus, which had issued apparently from an ulcerated opening; the Œsophagus, right lung, and stomach, were removed. Laying open the Œsophagus, it appeared that about three inches above the cardia it was ulcerated. The adhesion between the lung and the diseased Œsophagus was ulcerated through, from the cavity of the abscess between its coats, passing its contents outwards into the chest, and inwards into the Œsophagus, where the ulceration of

the mucous lining, and exposure of the cavity of the abscess, was more extensive. It appeared that inflammation of the cellular tissue of the œsophagus had induced extensive effusion of albuminous and purulent matter between its coats, with subsequent ulceration of the mucous membrane, allowing the escape of pus, and exposing the albuminous matter involved in the cellular texture, as found on examination.

ANEURYSM.

A considerable number of cases of aneurysm are reported. We are induced to quote the following, because it may inspire a wholesome caution.

Case of Aneurysm of the Arch of the Aorta, terminating fatally in a Warm Bath.—Mrs. S., aged 46, complained of constant oppression and uneasiness, with occasional sharp pains shooting through the back bone, down the left arm, and up that side of the neck. Gentle exercise induced increased difficulty, pain, and cold perspiration. The same symptoms sometimes came on in sleep, with frightful dreams, obliging her to start up, and sit for some time supported with pillows. Pulse 80, soft and weak. In the palpitations, the action of the heart sometimes intermitting, would cease to vibrate, then flutter quickly, and so gradually recover. The pain at the heart, passing into the neck and arm, was occasionally so severe, that the arm for a time lost all power and feeling. Finding herself, as she said, sufficiently weak, she would neither submit to lose blood nor restrict her diet, but begged to be allowed to visit Brighton. When there, she was induced to get into a warm-bath, but was no sooner in than she entreated to be taken out again, and instantly expired; in all probability from the sudden relaxation of the vascular system inducing rupture of the sac, and fatal hæmorrhage.

We think that it was the acceleration of the circulation that gave rise to this. The warm-bath is far too indiscriminately used, and when any disease of the heart or arteries exists, it ought to be refrained from. In febrile disorders, attended with much vascular action, the warm-bath is equally dangerous. Such is the case with rheumatic fever, and metastasis to the heart has been the consequence of the employment of the warm-bath. The case before us is a warning, and as such we address it to our readers.

Scirrhus Pylorus mistaken for Aneurysm of the Abdominal Aorta.—This case we introduce because we have witnessed a similar one.

Case.—J. B., 45, under care of Mr. Hora, had received a blow upon the chest, twenty months before, and had never felt well since. As he lay on his back in bed, a pulsation was so evident, that the hand laid on the scrobiculus cordis, perceived the action of the heart, over the aorta, beating powerfully. Pressing the tumor, the size of a small orange, laterally, it still seemed to expand, or pulsate, in that direction as well as forward. The patient, however, was not, as he should have been, requested to place himself on his hands and knees, a position that would

most probably have cleared up the doubt, by rendering the tumor at once pendent, and independent. Several medical gentlemen who saw the case, agreed in the opinion that it was aneurysm.

The tumor, several months increasing, had first attracted notice by its painful throbbing. When painful, it generally disturbed his stomach with sickness. He soon died.

Post-mortem.—On examination, the tumor, which latterly had much increased, proved to be disease at the pyloric end of the stomach. A scirrhus induration, which, with a considerable adipose deposit, had drawn down the inferior end of the stomach, so as to place the seat of disease in front of the spine, and immediately over the aorta.

During the past Winter we saw, with Mr. Barrett Marshall of Chelsea, an elderly man affected with a pulsating tumor in the belly. It was about the size of a small orange, though flatter and more oblong. It was situated in the hypogastric region, though moveable to either side. It pulsed strongly. When diverted to one side, the pulsation was less distinct. It was conceived to be aneurysm of the aorta or of one of its leading branches. We were of opinion that it was either malignant tumor in the omentum or scirrhus of the pylorus. The ordinary symptoms of the latter were absent. The man died, and scirrhus of the pylorus it proved to be.

INFLAMMATION OF THE VEINS.

Mr. Howship relates several cases of obstruction of the venous system and of inflammation in it. We shall pick out some of the more instructive.

Case of Inflammation of the Posterior Tibial Veins, on the Decline of Pneumonic Inflammation.—Mr. G., 32, under care of Mr. Love, was convalescent from an attack of inflammation in the lungs, when he complained of acute pain in the leg, in the course of the large vessels downward from the popliteal space behind the tibia, with total incapacity to stand upon the limb. The pulse was quick, skin hot, and tongue white, with thirst. Mr. Howship found no external heat or tenderness, only an increase in the deep-seated pain on compressing the gastrocnemii.

The mercurial influence, promptly established by the blue pill with opium, aided by repeated leechings, fomentations, and abstinence, soon relieved and removed this complaint; so that, in three weeks enabled again to place his leg to the ground without aggravation of the pain, in six weeks he was quite well.

We notice this case, because we believe it is not very rare. After operations, injuries, inflammatory affections attended with the formation of pus, secondary inflammation of the posterior tibial veins, and, if we mistake not, the sural veins, is not uncommon. The calf of the leg swells, is slightly cedematous yet tense, a faint flush may suffuse it, there is great tenderness on pressure, and much constitutional disturbance. Sometimes the patient dies, sometimes he recovers—in all instances the affection is severe, and should be understood.

Case of Varicose Veins attacked with Gouty Inflammation.—J. P., 47, a postman, had been long subject to varicose veins and cramps in the left leg, where there was a cluster of very large varices, in some parts filled with coagula. All his life liable to uneasy and relaxed bowels. A troublesome diarrhoea checked by carminative and alkaline medicines, he the next day complained of pain in the left foot and ball of the great toe, with heat, redness, and swelling; the pain shooting violently up and down.

In a few days the medicine had much relieved the relaxation in the bowels and inflammation on the foot, but at the same time the cluster of varicose veins, above and below the knee, became excessively heated, inflamed, and painful, neither enduring the least pressure nor the slightest touch. It was clear the gouty action, suddenly shifting from the foot to the leg, had as suddenly seized upon the enlarged veins. In three or four days the affection shifted back, his foot again becoming tender, painful, and inflamed, and the veins on the leg in the same degree easier, and able to bear examination and pressure as well as ever.

Mr. Howship passes to Diseases of the Liver. Among his cases we find one of

Inflamed Liver, with Obstructed and Punctured Gall-Bladder.

Case. A. N., 34, at the age of thirteen, had loss of appetite, headache, fever, and jaundice; in about a month he recovered. At thirty, in India, attacked with pain in the right side and shoulder, with sense of internal swelling, he was again relieved by treatment. In three or four years, his health reduced and his legs swelled and ulcerated, invalided and sent home, he was taken into St. George's Infirmary, still sensible of internal swelling, which now manifested itself outwardly beneath the cartilages of the right ribs, with pale stools, and a bilious tinge upon the skin.

Fomentations applied, a central softness induced Mr. Heaviside to puncture it, and about two ounces of a thin purulent bilious serum flowed out. For many weeks, pure bile alone was discharged. Several ounces flowed off daily. In three months, the discharge became scanty and purulent, and the opening contracted and healed, the stools re-assuming their healthy bilious colour, and the patient his feelings of perfect health.

We believe this is not the only case that has occurred of a distended gall-bladder being taken for hepatic abscess and punctured. And it has not happened, in every instance, that the bile has been purulent, or that the patient has recovered.

Permanent Spasm of the Gall-Ducts, occasioning Death.—A. B., 18, died after forty-eight hours of excruciating pain just in the seat of the gall-bladder, shooting through to the back, positively relieved while blood was flowing, but only transitorily. On examination after death, Mr. Howship "found a slight adhesion of the anterior edge of the lower right lung, to the diaphragm. In the abdomen the small and large intestines contained a white mucous matter, but no trace of bile. The liver perfectly healthy, the gall-bladder large, tense, and full. Stomach inflated, soft, pulpy, and discoloured, with spots of blood effused into the cellular tissue of the vilous lining. The duodenum, gall-bladder, ducts, and part of the liver were removed for subsequent examination.

The gall-bladder opened, a ropy greenish black bile flowed slowly out, a little of which, rubbed in a bason of water, gave a diluted tinge of a brilliant warm yellow. A probe lightly introduced would not pass, nor could I at all find the opening from the gall-bladder by the probe. The ductus communis punctured with a lancet about its middle, a very small probe, with some difficulty, passed through it into the bowel. In the opposite direction it passed with tolerable ease by the hepatic duct into the liver, and also with difficulty into the entrance of the ductus cysticus, being stopped half an inch short of its termination in the gall-bladder. I attempted, in vain, to pass the smallest blunt wire, the duct being apparently completely impervious. Carefully dissecting off the peritoneal coat, I found the impervious duct, solid, contracted, tough, and opaque, like a soft ligamentous structure; the open part of the biliary passages having all the characters of health.

The ducts, placed on a piece of glass, in a cool place, I laid aside and examined six hours after, and found, that air, by a blowpipe, now passed through that portion of the duct I had concluded obliterated; and when further dissected for putting up to demonstrate the contraction, it had become as perfectly relaxed as any other part of the tube.

It was thus unexpectedly demonstrated, that the whole obstruction had been spasm, and it was clear that the most complete contraction detected in one part of the duct had probably existed in another also, and therefore, that the ductus communis, during life, had been also perfectly closed by spasm, preventing the bile from flowing into the bowel."

Convulsive Cough from Biliary Calculi.—Case.—Mrs. C., 53, was for thirty years subject to hard dry cough, which no medicine would relieve, occasional paroxysms of most extreme pain at the stomach, sickness and vomiting, depressed pulse, and cold sweats. The stomach rejecting every thing, during the attacks, in the last of which, of unusual severity, she sunk and died.

Post mortem.—There were slight adhesions between the fundus of the gall-bladder, omentum, margin of the liver and diaphragm. The gall-bladder opened, contained healthy bile, and a quantity of small angular gall-stones, three drachms in weight. The other viscera sound: it appeared that these concretions were the only existing cause of irritation.

SPASM OF THE STOMACH.

Mr. Howship thus describes the causes of this, and illustrates his observations by cases.

"Spasm of stomach, from the irritation of biliary calculi, has been shown to induce most intense pain, readily distinguished by the sudden accession and decline of the attack, the rejection of everything taken, the pain and tenderness at stomach, the slow pulse, faintness, and cold sweats, by the sudden relief afforded by antispasmodic medicines, and by the condition of this organ thus affected, being occasionally found after death to be a close contraction, not of the central part alone, but the whole pyloric portion of the stomach; the cardiac extremity, although relaxed, being from irritation deprived of its power of retention.

Painful spasm of stomach, exhausting the powers of life, and apparently induced by mental distress, either alone or assisted by gouty influence, may be regarded as a consequence of extreme irritation, precisely similar to the above, to be discriminated to a certain extent by the same train of symptoms.

A contraction less in extent, but equal in degree, presents itself to notice in the exceedingly rare case of central contraction of the stomach, in which it may be presumed that the inconvenience sustained, scarcely going beyond diminished power of retention, depend on the small extent of contraction, and its not being liable to fits of irritation. The probable existence of this condition, derived, as I have seen it, from hepatic irritation of moderate intensity, may be suspected from frequent uneasiness, but little pain at stomach, by retention of the smallest portions of the mildest nutriment only, and by the evidence of hepatic disease, pain, tenderness, or tumor, about the liver, perhaps with jaundice.

The last form of pure irritation to be noticed, operating to destroy life, by weakening the powers of the stomach, may occur, as in one instance, from the confinement of the smallest bit of omentum in an almost imperceptible herniary protrusion; a case, the discrimination of which, notwithstanding its obscurity, would only require attention to the history and to the state of the part." 207.

Purulent Effusion between the Coats of the Stomach.—We introduce this case because we once witnessed, at St. George's Hospital, a like one. We never saw but the one, and we are therefore inclined to think the affection rare. In the instance that fell under our observation, as in this, the patient was a spirit drinker.

Case.—Mr. B., 45, an intemperate spirit-drinker, was subject to attacks of pain and sickness at his stomach for fifteen years. The attack was generally preceded, for a day or two, by a distressing, burning heat in the stomach: sickness and vomiting then came on, with outward tenderness, and went off in a few days. These complaints increased in severity; and on the day of his last seizure the severity of pain prevented his taking any food. He felt cold, and had repeated slight rigours, and said he feared he should have spasms at the stomach, which he had heard were dreadfully painful. He soon after felt sick, and the next day, with Dr. Ager, Mr. Howship visited him. Pulse weak and small, 120, skin hot, tongue white, great pain and tenderness at the stomach. Mild saline and diaphoretic medicines, with a blister, were directed. The following morning, the medicines rejected, he became comatose, was slightly convulsed, so remained, and in the evening expired.

Post mortem.—On opening the abdomen, the stomach was found not to be discoloured externally, appearing and feeling thicker than natural; it was removed and laid open along the lesser curvature, where the thickening was greatest. In making this and other sections, it appeared that pus, fibrine, and serum, had been freely effused into the sub-mucous cellular tissue through all parts of the stomach. In some parts the effused matter was principally purulent, in others fibrinous, with here and there traces of fine capillary arteries shooting into the newly deposited fibrine. Behind the longitudinal rugæ, the infiltration was a transparent serum. At the lesser curvature, the thickness of the coats of the stomach was nearly half an inch, in consequence of these changes.

Spasmodic Stricture of the Cardia cured by Blue Pill and Opium.

"I was once called to visit a gentleman who had a very narrow escape with his

life, from spasm closing the lower end of the œsophagus, a circumstance I never witnessed before or since. Neither solid nor fluid would pass; it went down to the spot, remained as a weight, and soon returned. The sudden accession almost proved it spasm, and perceiving that an eruption on the hands, having the characters of rhagades, had receded, it struck me, at the moment, that the pil. hydrarg. would reach the spot, and might possibly relieve the affection in time to save life. I ordered pil. hydr. gr. iij. opil. gr. ss. secunda quaque hora, which was regularly taken. Within two days the mouth affected, the stricture relaxed, and the patient recovered." 221.

We quite agree with Mr. Howship in the following attempt at *discriminating the symptoms of scirrhus and soft cancer*, in the stomach and alimentary canal.

When, he says, the specific disease is of modified character, inclining to the condition of soft cancer, while the total loss of power, as to function, still assists discrimination, there is little or nothing of that peculiar distress and pain that distinguish scirrhus. An irritable and relaxed state of bowels, is, perhaps, more positively characteristic of the medullary than of the scirrhous form of cancer.

SPASM OF THE COLON AND SPHINCTER ANI.

Mr. Howship lays down some diagnostic symptoms of the varieties of spasm that affect the large intestine.

Acute Inflammatory Spasm.—Bowels confined, stomach irritable, sudden accessions of violent pain, extreme tenderness of abdomen, with constitutional disturbance, equal to that of peritonitis.

Chronic Inflammatory Spasm.—In one instance, originating in a blow, and augmented by an attack of fever, more or less constant pain in the seat of stricture, aggravated by costiveness or exercise, and capable of perfect, though not permanent relief, by blistering.

Permanent Spasm.—Habitual confinement, obstinate costiveness, or sudden ileus, and death. Uneasy flatulence behind, but no uneasiness in the stricture. Marked sympathy with the state of mind. Vexation or trouble, suddenly arresting digestion, inducing acidity, flatulence, sudden and excessive mental depression, or dread of insanity.

Occasionally a peculiar disturbance is manifested through the sympathetic system, paroxysms of violent excitement in the action of the heart, with distress and difficulty in respiration coming on in sleep. Loss of retentive power in the stomach, with tenderness of abdomen and prostration of strength. Slightly painful spasms in the part now and then, at first induced on injecting the bowel.

The stricture, in rare cases, the seat of frequent uneasiness, under mental fatigue, anxiety, or confinement of the body to one position, becoming acute, or very acute and capable of relief only by relaxing the mind, or by taking bodily exercise. Enlargement and accumulation behind the stricture, in some instances exciting chronic diarrhoea. In the appearances after death, the occasional decline of circulation and deficient vascularity very remarkable.

Permanent Spasm of the Sphincter Ani.—Constant uneasiness, distress-

ing or intolerably severe pain, obtuse or acute, in the sphincter, which, on examination, is found unusually firm, hard, and closely contracted; the pain increased by exercise, or even sitting, and prone to recur with aggravated severity in sleep. Medicine nearly or entirely useless.

Mr. Howship dwells on the advantage of enemata in cases of spasm of the colon. A warm emollient fluid should be introduced with the least possible disturbance to the sphincter, at a temperature of 98°, passed in slowly and gently, waiting if pain arise till uneasiness has ceased, to such amount as may distend the intestine to its fair capacity, and so be retained for fifteen, twenty, or thirty minutes.

He relates two cases of spasm of the sphincter cured by the daily introduction of the bougie.

From among numerous cases of ileus, &c. we select one, for its practical utility, of—

Intus-susception successfully Treated by Distention of the Bowel.

Case.—Mr. H. was requested to see Miss J. W. æt. four years, seized the preceding evening with pain in the bowels, sickness at stomach, and violent tenesmus, yet voiding only blood. These symptoms still existed with quick hard pulse, hot skin, white tongue, with tense and tender abdomen. Mr. Plumbe had very properly directed leeches and aperients, the latter being rejected by vomiting. An enema also had directly returned. Both considered it as a case of intus-susception of some part of the intestines. Three days passed without relief; abdomen rather less tense, pulse 160, stomach rejecting every thing. It was clear the child could not live, unless something more was done. Mr. Howship suggested the trial of an injection of warm gruel, which, if the intus-susception happened to be situated in the great intestine, might possibly be useful, but could not add to the danger. The fluid was injected gradually, and the action of the sphincter steadily assisted by lateral pressure to prevent the fluid escaping. The great difficulty was its retention, without which, the case was hopeless. As the quantity increased, the abdomen was gently and repeatedly rubbed, and as the operation proceeded, it was observed that although the abdomen was of course more full, it became less painful than before. During the hour occupied in the operation, the skin became cool and moist, the pulse fell to 110, and the perpetual retching entirely ceased. The fluid was then permitted to flow off very slowly, to give the bowels time to contract. The enema brought away some soft fæces. The quantity injected, when returned, was found to exceed two pints. An aperient mixture in small doses at short intervals, previously rejected, now remained quietly on the stomach, soon passed through, progressively cleared the bowels of a large quantity of pulpy fæces, and the child perfectly recovered.

Abscess between the Rectum and Vagina.

This is no common case. Its narration may assist diagnosis in others.

Case.—M. B. 24, fifteen months previously, from habitual costiveness, had frequent straining to relieve the bowels; and under constant exposure to all weather, drinking spirits, and often sleeping in wet clothes, constant tenesmus, aching at the loins, burning heat, with sickness and retching,

came on. The tenesmus, flatulence, and pain in the back, sometimes brought blood with the stools, which generally contained purulent matter. The rectum examined, Mr. Howship found within the sphincter a soft protruding tumor, made up of numerous folds of the inner membrane, through which the finger could find no opening. Notwithstanding occasional relief from anodyne or other medicines, the constant and distressing tenesmus, irritation, and pain continued to increase, until she sunk and died.

Post-mortem.—The lower part of the rectum was not contracted, but thickened. The muscular coat, apparently one-eighth of an inch thick, not indurated, yet presenting a semitransparent greyish texture, like incipient scirrhus. Just above the sphincter, the relaxed, abundant, and oedematous mucous membrane, collected into folds, explained the obstruction felt during life.

Between the rectum and vagina, just above the sphincter, an abscess had formed, discharging its contents by an opening into the gut, and continuing to secrete pus from that time until she died. The mucous membrane of the bowel, at various points was ulcerated, from the opening of the abscess to some distance above.

Mr. Howship observes, in reference to this affection, that, "instructed by this and by another case of the certain event, if let alone, finding a young lady so situated, I took the uncertain chance of escape from bleeding, and made a deep section. Healthy action and granulation followed, and she recovered; but I never was more near losing a patient by hæmorrhage than in this case."

Peritoneal Inflammation, simulating Psoas Abscess.

Case.—E. S., 17, a servant girl, lifting a weight, strained her loins and felt pain in the back; at first trifling and seldom, at length considerable and constant. In twelve months, a swelling formed in the right groin, receiving an impulse in coughing. It broke, and discharged freely for many months, with frequent severe pains at the loins, especially when the bowels acted. Declining in strength, she took bark. The discharge lessened, pain in the loins increased with throbbing, when the stomach sickening, she felt something break in the bowel, not, she said, low down, but high up, followed by an immediate and copious discharge of pus, per anum. The previous distress and aching in the back became much easier, and the discharge gradually lessened. It gathered again, and six weeks after the first, it broke a second time into the gut, and discharged at once near a pint of matter; she gradually sunk, and in three weeks died.

Post-mortem.—In the abdomen, Mr. H. found the lower part of the rectum, the uterus and appendages involved and concealed in a quantity of effused fibrine, having the appearance of a very condensed cellular tissue, filling up the pelvis. The rectum adhering to this effused matter, and repeatedly reflected on itself, had received the contents of the abscess, which had formed in the midst of the mass of fibrine, discharging its contents, at first through the groin, and afterwards by an opening high up, into the rectum; but the parietes of the abscess had so contracted, as latterly to be scarcely capable of containing half an ounce of pus.

We certainly have not selected every case or every observation of in-

terest in this volume. But we believe that we have presented our readers with the majority; and, unconnected as they are, they still are calculated to afford some useful hints to practical medical men.

A COMPLETE PRACTICAL TREATISE ON VENEREAL DISEASES, AND THEIR IMMEDIATE AND REMOTE CONSEQUENCES. INCLUDING OBSERVATIONS ON CERTAIN AFFECTIONS AND DISCHARGES. By *William Acton*, late Externe at the Female Venereal Hospital, Paris. Octavo, pp. 410 London, Renshaw, 1841.

MR. ACTON has been a zealous and ardent disciple of M. Ricord's. He has followed his practice, collected his opinions, become imbued with his ideas, and laudably endeavours, in the present volume, to put the English reader in possession of them. The following dedication sufficiently expresses Mr. Acton's sense of what he owes to M. Ricord. To that gentleman it is addressed.

"Europe may admire the genius of the author of the '*Traité Pratique sur l'Inoculation*,' the British critic may call you the French Hunter, and the Institute may crown you with its laurels; but the pupil who, for a series of years, has watched you at the bedside, performing the varied experiments which are overturning long-received opinions, and collecting those facts which form the basis of a new school, can alone adequately feel, and sufficiently appreciate, that honest and manly candour which is always ready to acknowledge errors, and that generosity which allows others to participate in opinions still unpublished."

As we purpose, on a future occasion, returning to M. Ricord's work and to this, we shall content ourselves for the present with noticing incidentally a few points of practice.

Diagnosis between a virulent Gonorrhœa and a simple one.

The French surgeons have a great objection to the term *gonorrhœa*. They point to its derivation and absurdity. But it has been so long in use, and the ideas derived from its origin are so exploded, that it matters little whether we stick to it or *blennorrhagia*. Be that as it may, there has been, to our minds, a great deal of useless altercation on the means of distinguishing a "virulent" gonorrhœa from a "simple" one. Indeed it is difficult to know exactly what a "virulent" gonorrhœa is. Is it a severe one, or one followed by secondary symptoms? We apprehend that different authors will be found to use the term in different ways. The following are M. Ricord's views.

"The previous views of authors show how much difference of opinion existed on this subject when M. Ricord undertook to show that the cause of a virulent blennorrhagia depended upon the complaint being complicated with a *chancre*. In women, more especially, he found that what was called a virulent gonorrhœa depended upon the existence of ulcerations, which could not be discovered by an examination of the external organs of generation, but which the use of the speculum clearly proved to exist; but did all ulcerations give rise to a virulent

gonorrhœa? was the next question to be solved. At the time this eminent surgeon was investigating the subject, he often had occasion to treat the woman from whom some of his male patients had contracted the disease, and he found that there were various forms of ulcerations, the secretion of which caused simply a mild gonorrhœa: there existed others, however, which caused sometimes chancres on the glans penis and prepuce; on other occasions, virulent gonorrhœas. In vain did he try to distinguish these ulcerations by their physical characters. It was only by inoculation that he was enabled to prove why sores similar in appearance gave rise to such different consequences. Inoculation soon showed him that there may exist an ulceration of a *specific* character, which will be described in its proper place, and called chancre; but there likewise exist ulcerations of a *simple* nature, the result of an inflammatory state of the mucous membrane, which were frequently the consequence of a blennorrhagia. From this moment that which was previously doubtful became clear, and an inquiring and observing mind like his was not long in deciphering what had been the *opprobrium medicorum*.

From what the speculum showed clearly to exist in the vagina, he naturally concluded that similar appearances might exist in the urethra of the male, but which, from its small size, it was impossible to demonstrate. However, one opportunity of examining the urethra, followed soon after by a second, put him in possession of two cases, which he showed to the Academy of Medicine, in which chancres existed in the whole course of the urethra. He thus discovered the key to this hitherto difficult labyrinth; and concluded that the only diagnosis between virulent and mild blennorrhagia is derived from inoculation.

The experiments, frequently repeated, of inoculating with the secretion of a simple mild blennorrhagia, produce only a slight irritation, which subsides in a few hours; whereas, if the complaint is virulent, or, in other words, depends upon, or is complicated with, a chancre which is concealed, or which can be brought into view by the speculum, the secretion introduced under the skin, in a similar way as in the former experiment, will produce a vesicle, pustule, and chancre. This, then, I call the *certain pathonomic* diagnosis of a virulent blennorrhagia. A rational diagnosis may be drawn from the rosy, thin, serous, or rusty colour of the discharge, provided such be present, as well as from an indurated spot in any point of the canal, accompanied with fixed pain, &c.

Should buboes follow, which on inoculation give rise to the characteristic pustule, it may be asserted confidently that the blennorrhagia is a virulent one. The occurrence of secondary symptoms, which only follow in a few cases, gives a further diagnosis of the same fact.

It is, however, the rational diagnosis that the surgeon must usually depend upon, as inoculation cannot always be proposed, or he may find patients object to submit to it; he must, however, remember that it is but a rational one, and on such data be cautious how he risks his reputation by giving an opinion." 47.

That there are cases of syphilitic sore in the urethra is indubitable. We have ourselves published two or three, and seen two more. In those cases the sores have been easy of detection by any observant surgeon. The inoculation test is a favourite one with M. Ricord. We confess that we think the value of inoculation in cases of venereal disease is overrated. First, fallacies may stick to it. In a bad habit of body any discharge might produce by inoculation a sore, and one of ugly characters. What sort of evidence would that be? Suppose (what we believe has happened) a phagedænic sore so produced. Is that an evidence of virulence or not? It is neither, because, phagedæna, depending on the state of the recipient rather than on the nature of the virus, syphilitic matter may occasion it as well as other matter. Short of phagedæna, we have no doubt in our

own minds that discharges of very different kinds might give rise by inoculation to sores of dubious character.

In the second place this difficulty has always seemed to us to attach to inoculation. A sore has a doubtful character. To determine if it be syphilis we inoculate with it. Suppose a similar sore produced. It does not follow that that is syphilitic. Acrid discharge occasioning the first may occasion the second. If syphilis had as fixed characters as vaccinia or as variola the discrimination would be easy. The standard of comparison being precise, the object selected could fairly be compared with it. But if the standard be a fluctuating one, what strict comparison can be instituted? If, indeed, only syphilitic sores could be communicated by inoculation, the difficulty would vanish. But this we disbelieve in toto. Look at the effect of dissection wounds, at the effect of dabbling in acrid discharges totally different from venereal ones. Sores are excited that, occurring on the penis, or produced by inoculation with gonorrhœal matter, would, not unfairly, be pronounced syphilitic.

In the third place, it is by no means certain that genuine syphilitic matter must of necessity reproduce a sore. It would require a vast array of experiments to establish this. A person may be inoculated with variolous matter and not take variola, with vaccine matter and not exhibit the vaccine vesicle. In the act of connection, a brief contact with syphilitic matter causes syphilis. Yet the discharge from that syphilitic sore may lodge for weeks upon the prepuce and not generate a second sore. Why may not inoculation be inoperative too?

Finally, inoculation is in practice useless, or not very remote from useless. What surgeon in this country would propose, what patient submit to being inoculated with matter from his urethra, to solve a difficulty more apparent than real, and very likely not to be solved after all? What surgeon would propose, what patient submit to, the risk of phagedæna for such a reward? We say phagedæna, for we are confident that were inoculation general, phagedæna would every now and then occur. A French hospital and an English consulting room are very different places.

Our own conviction is that inoculation has been overrated—that it is much less satisfactory and much more objectionable than is represented.

Is the Speedy Suppression of a Gonorrhœa safe?

"A patient will sometimes ask the surgeon if the treatment he is about to prescribe will give rise to a stricture or a swelled testicle. It is a very common error to suppose that the treatment will occasion either of these complaints, and this, like many other popular errors, has taken its source in medical writings, which have stated that a blennorrhagia speedily cured will give rise to various other complaints. M. Ricord says, we may state distinctly that no ill consequences are to be feared from any treatment, provided it is not grossly improper. If (pursues that surgeon) I were disposed to be aphoristic, I might say that the ill consequences will be few, in proportion as the cure is speedy; and I defy any one to produce a case cured in twenty-four hours from its commencement, which has been followed by any ill consequences. There are prejudices against speedily curing a blennorrhagia, and I may be told by some surgeons, 'after a practice of full thirty years, I am of an opposite opinion.' But I ask, may not such a practitioner have laboured under a mistaken notion during thirty years? Is implicit belief in a fact, for that space of time, a proof that that fact is true? Has not an old author said, and very truly, 'experientia fallax?'" 48.

It is odd enough that this very day a practical comment on this doctrine came before us. A gentleman whom we had treated for a gonorrhœa two or three years ago, and that with safety and success, applied to us under these circumstances. Last year he went to Paris, and caught a gonorrhœa there. He went immediately to M. R——, who gave him very powerful doses of cavi and cubebs, and strong injections. He felt, he said, all on fire with the medicines. The gonorrhœa was stopped in a week, but from that time to this he has been subject to severe headaches, his digestive organs have been totally deranged, and a stricture soon supervened. We have no hesitation in expressing our dissent from the doctrine that M. Ricord has laid down.

Diagnosis of Gonorrhœa.

"Every tyro in medicine will at once distinguish what he calls a clap, by means of the symptoms above described: but such a person may not be aware that a surgeon cannot always decide at once whether a man is suffering under a gonorrhœa or not, provided no discharge be observed, and the lips of the urethra be not inflamed, and no stains seen on the linen. M. Ricord gives the following instance of the occasional difficulty. He was ordered by a magistrate to give an opinion whether or not a prisoner, said to have violated a girl, was labouring under gonorrhœa or not. The accused presented no swelling of the lips of the meatus; on pressure, no discharge came from the urethra, and there existed no traces of any secretion on the shirt. When interrogated, he stated he had made water six hours previously to the examination. As M. Ricord had some suspicion, he ordered him to pass his urine at once, and desired one of the gaolers to watch his prisoner; in six hours after, M. Ricord returned, and then found undoubted marks of an existing gonorrhœa; the prisoner confessed that he had made water previously to the first examination, and had taken care to remove the secretion as soon as formed by a piece of lint which he concealed for that purpose." 75.

We have never seen an "undoubted" gonorrhœa without an obvious vascular fulness of the mucous membrane. On everting the lips of the urethra, it is either seen florid, with a punctuated redness (we employ a lens) and a semi-abraded appearance, as if the epithelium were partially removed, or the veins of the mucous membrane are enlarged and tortuous.

How to compress an Inflamed Testis.

"The *emplastrum vigo cum mercurio*, of the French codex, is the preparation that M. Ricord employs, cut into strips about half an inch wide; but other adhesive plasters answer equally well; the less irritating they are, however, the better.

The manner of employing them is as follows; embrace the affected testicle in your closed hand, drawing it, at the same time, away from the other; then pass a strip of plaster around the chord, just where it is in connexion with the testicle, to prevent the testicle escaping out of the scrotum; this being done, the scrotum of the affected side will be applied closely on the testicle, which presents an oval shape; the strips of plaster may then be applied in circular layers along the testicle, until all but the lower part is included. The latter may then be compressed by smaller and shorter strips, placed at right angles with the circular ones, which they thus maintain in their place. The testicle is thus equally compressed, and the strips of plaster should be drawn tolerably tight; the patient will usually complain of some degree of pain during and immediately after the operation.

Far from discouraging the surgeon, this should lead him to believe that the compression is well applied. When, however, the pain has not abated at the end of an hour, the surgeon may usually be assured that no good can result from this treatment; the compression should be discontinued, and antiphlogistic means had recourse to: if the cases of compression be well selected, and the indications followed, it will be necessary to withdraw the plaster in a few hours after, for the size of the testicle will have subsided considerably, and the shell of adhesive plaster will become quite lax: it must be removed, and other strips applied in the same manner as the former, which may require removal in succession." 102.

We confess that this plan, which has been in some vogue on the Continent, is one that we should hesitate to recommend.

Disease of Cowper's Glands.

Our author observes that during the course of gonorrhœa, it not very unfrequently happens that we find an affection of Cowper's glands come on, and this affection is more common than is generally supposed; it may come on imperceptibly, and the patient take no notice of it until there is considerable swelling of the parts. In other instances there is fever, and all the symptoms of abscess; pain is felt in the course of the urethra, followed by fluctuation at one point, and difficulty in making water. M. Ricord considers that the affection commences in Cowper's glands in consequence of the extension of inflammation, and that suppuration results, and has a tendency to make its way outwards.

An abscess, however, may occur in the course of the urethra, in consequence of an abrasion of the mucous membrane, and a limited infiltration of urine follow; the abrasion may heal, and a small abscess will result situated close to the urethra; such a case it will be impossible to distinguish from inflammation of Cowper's glands, if it occurs in or about the bulb. To the finger this abscess will give the sensation as if it were attached to the urethra by a pedicle.

Passion of French Ladies for the Speculum.

"M. Ricord states that the French female in high life is now so reconciled to the use of the speculum, that he often receives notes requesting his attendance, and, in the postscript, a demand that he will bring his speculum. At the hospital, when M. Ricord took the service in 1830, a revolution broke out, and a strike against the speculum occurred; however, a few days of bread and water quieted this revolt of the harem, and now the women are so convinced of the benefit, that they think no more of its introduction than they do of having a blister dressed. They can, however, appreciate instantly the tact of one surgeon over the other in introducing it." 180.

Certainly this latter is an enviable distinction, and one that a surgeon may be proud to earn. Mr. Acton anticipates the period when the absurd objections now entertained by English ladies will yield, and like the French, they will send a note to the Doctor, with a P. S. (notoriously the portion of a lady's letter in which she speaks her mind) for a speculum. Mr. Acton anticipates this, and that "time will overcome the prejudices which exist" against the instrument. We confess that we are among those who hope that these "prejudices" will always be characteristic of our countrywomen, and that it will be reserved for the most abandoned

class to *request* the introduction of the speculum. Mr. Acton is partial to it, for he gives an engraving of a "speculum chair," which he recommends as ornamental to a library.

The Certificate System.

Rather an amusing insight into the state of society in France is afforded by the different forms of certificate given us (after Ricord) by Mr. Acton. We will quote one as a sample. They are in blank, to be filled up with name and date.

"After carefully examining Mrs. ———, I do not find she is labouring under any syphilitic affection, but is subject to a discharge, which, under the influence of any exciting cause, may become aggravated, and thus transmit the disease to persons having connexion with her." 184.

We have never heard that this sort of pass-port system obtains in this country. Unhappily, the work before us offers other indications of the loose morality of Paris. Some of the recommendations and cases of M. Ricord we forbear to introduce. The following fact is a painful one.

"During the period I performed the duties of Externe, under Professor Velpeau, at La Charité, a mother brought into the hospital a little girl of three years of age, affected with a white swelling and a discharge from the vagina. She stated that the infant was in the constant habit *de s'amuser*, as she called it, and when left alone, repeated continually this mal-practice; she further traced the habit, so early commenced, to a plan which nurses in France have of tickling the genital organs of children who are peevish; this, for the moment, quiets them, but infants repeat these manipulations even at a very early age, as this case proves. On inquiry I found that this was not an isolated case, and leads in after life to most vicious propensities." 27.

Before closing this volume we must repeat that it offers a complete account of the views and practice of M. Ricord. Any one who peruses it will see in it the merits and the faults of the French School. The author deserves credit for the manner in which he has executed his task, and he shews that his time has been diligently spent in the French hospitals. But we think that, in his laudable anxiety to enhance the reputation of his preceptor, he fails to do justice to what is known in this country.

THE ANATOMY OF THE ARTERIES OF THE HUMAN BODY, WITH ITS APPLICATIONS TO PATHOLOGY, AND OPERATIVE SURGERY, IN LITHOGRAPHIC DRAWINGS, WITH PRACTICAL COMMENTARIES. By *Richard Quain*, Professor of Anatomy in University College, and Surgeon to University College Hospital. The Delineations by *Joseph Maclise*, Esq. Surgeon. Parts 1 to 6. Price 12s. each. London: Taylor and Walton.

It has been a subject of painful regret to ourselves that no sufficient notice has hitherto been taken in this Journal of the splendid work before us. It reflects high credit, not on the author only but this country, and is, in every way, worthy of both.

The author, in his advertisement, thus acquaints us with the aim and with the plan of the work.

The object, he says, of this publication is to lay before the student and practitioner by means of accurate delineations, and a record of the peculiarities observed in numerous cases, a correct history of the blood-vessels, arranged especially with a view to its bearing on practical surgery.

Mr. Quain informs us in his Preface, that,—

“Several years have elapsed since I became impressed with the belief that the difficulties which have often occurred in the performance of those surgical operations in which the larger arteries are concerned, have arisen in great part from want of sufficient acquaintance with the differences in anatomical disposition to which these vessels are subject—not merely those deviations in the origin of large branches, which are usually named varieties, but other peculiarities of various kinds which are liable to occur, such as those which affect the length, position, or direction of the vessels. Under that impression I was led to observe these circumstances more closely, and finally determined to obtain a record of the condition, whatever it might be, of the more important vessels in a considerable number of cases,—a record to be made especially with a view to points bearing on practical surgery.

With this view, I examined with more or less attention the bodies which were received during a series of years for the study of anatomy into the School of Medicine in University College. These bodies, to the number of 930, were with rare exceptions so inspected with reference to the subject of my inquiries, that anything very unusual could not escape notice: and, in order to insure accuracy, when other occupations allowed, the arteries were carefully examined and their condition noted at the time, attention being always particularly directed to those vessels and to the points in their history which seemed to be of importance in the practice of surgery.

This detailed investigation was continued until the number of cases observed appeared such as would afford grounds for reasonable conclusions both as to the limits of the deviations from the ordinary standard, and as to the relative frequency of their occurrence.

At the same time that the observations thus made were written down, drawings were obtained of all the important peculiarities which presented themselves, and when it was practicable the preparations were preserved.

The varieties in the arrangement of the blood-vessels thus noted grew, as may be supposed, to be very numerous; but instead of difficulties multiplying with the number of observations, it was usually found that as the facts accumulated, the transition from one state to a very different one ceased to be abrupt or without method, for others from time to time interposed which served to link them together.

Originally these observations were intended exclusively for the benefit of my class; but as their number and connexion seemed likely to render them more extensively useful, I resolved to publish them. On examining with a view to publication the materials which I had collected, it became obvious that their utility would be very limited, unless as a part of a full history of the arteries with adequate delineations. In consequence, a series of drawings, showing the arteries according to their usual arrangement, has been prepared, and to these are appended the observations previously alluded to. The work has thus grown under my hands, and has gradually assumed its present form.” 6.

The Parts before us are admirable. The sketches are clear, forcible, and to the life. Every operating surgeon should possess them—every professional library and reading room should contain them. It is chiefly by the patronage of Institutions that Mr. Quain can be remunerated, and it would be disgraceful if he were not.

- I.—MEMOIRE SUR LES DEVIATIONS SIMULÉES DE LA COLONNE VERTÉBRALE ET LES MOYENS DE LES DISTINGUER DES DEVIATIONS PATHOLOGIQUES.**—Présenté à l'Académie Royale de Médecine. Par le Docteur *Jules Guérin*, Chargé du Service des Difformités à l'Hôpital des Enfants et Directeur de l'Institut Orthopédique de la Muette.
- II.—MEMOIRE SUR L'EXTENSION SIGMOÏDE ET LA FLEXION DANS LE TRAITEMENT DES DEVIATIONS LATÉRALES DE L'ÉPINE.**—Lu à l'Académie Royale de Médecine.
- III.—MEMOIRE SUR UNE NOUVELLE MÉTHODE DE TRAITEMENT DU TORTICOLIS ANCIEN.**—Présenté à l'Académie Royale des Sciences.
- IV.—MEMOIRE SUR L'ÉTIOLOGIE GÉNÉRALE DES PIEDS-BOTS CONGRUITS.**—Lu à l'Académie Royale de Médecine.
- V.—MEMOIRE SUR LES CARACTÈRES GÉNÉRAUX DU RACHITISME.**—Lu à l'Académie Royale des Sciences.
- VI.—THE CAUSE AND TREATMENT OF CURVATURE OF THE SPINE AND DISEASES OF THE VERTEBRAL COLUMN.**—Illustrated with Cases and Plates. By *E. W. Tuson*, F.R.S., Surgeon to the Middlesex Hospital, &c.

THE various memoirs by Doctor Guérin, the titles of which are at the head of this article, form a series of treatises on the deformities of the osseous tissue and on the remedial means to be adopted for their cure. To this subject the author has more especially devoted himself of late years, with ample opportunities for observation, and with zeal and talent well calculated to advance our knowledge.

The most voluminous of these memoirs furnishes a curious illustration of the medical history and professional economy of our neighbours, and as a fragment, "pour servir à l'histoire," as they would say themselves, is both instructive and amusing.

Amidst the literary and other extravagances of the medical profession in England, we think it would scarcely enter into the mind of a scientific surgeon, here, to devote nearly 150 closely printed pages, and eight highly finished engravings, to the discussion of the means of detecting a factitious from a real and morbid deformity of the spine.

Dr. Guérin prefaces his memoir in the following characteristic fashion :

"I will give the history of this memoir in a few words—its origin, vicissitudes, the storms it has raised, which preceded and have followed it, finally the effect, moral and scientific, which it has produced. It may be seen that this is no ordinary work, (I speak in reference to the special circumstances which have induced me to write it), but one which is attached to an epoch of my medical career—at once difficult and peculiar in its character."

This little episode of French medical politics and character, in true epic style, brings before us, in tragic order, individual and national customs and prejudices, persecutions, escapes, defeats, triumph and disaster,

and winds up with a splendid peroration on the vast interests, scientific and moral, embodied in the history and involved in the results of a squabble between a medical professor and a charlatan curer of spines never deformed. This squabble, however, which shook into convulsions the Academy of Medicine and occupied the learned judges of the land in two courts of justice, is really too rich a *morçeau* to be passed over without a slight sketch for the amusement of our readers. And, indeed, this is so admirably given by the Doctor himself in the preface above quoted, that it admits of slight improvement at our hands—we shall do little more than translate.

“Some four years ago a man (not a physician) presented to the Royal Academy of Medicine several persons with curvature of the spine which he undertook to cure in the space of a few months. The Academy instituted to watch over the progress of science, and to repress charlatanism, charged a commission composed of the élite of its members to follow the effects of the treatment adopted. After a space of about four months two of the patients passed for cured, and the commission accordingly made its report.”

It chanced, however, that Dr. Guérin was apprized that one of the subjects of cure, a strong and fine girl of twenty, most extraordinarily deformed before submitted to treatment, according to the report of the commission, was particularly well made according to the account of the people among who she had lived, having previously performed all the duties of an active chamber-maid! This circumstance seemed to the Doctor very satisfactorily to explain the rapidity of a cure which he confessed he had up to that time found it difficult to understand. With this new light on the *modus operandi* of the man (not a physician), Dr. Guérin made some further inquiries, and began to examine the plaster casts of the cases treated—attaching himself particularly to that of Jenny Guéry (the *femme-de-chambre* in question). An unfortunate attachment, it appears, to all parties.

Fully convinced at last that the lady had never really been deformed—was he openly to declare his conviction to the world, or hold his peace? Difficult question—often no doubt occurring to those who are obstinately bent upon proving the object of their attention perfect. “To have been silent and let things take their course,” says the Doctor, “would have been more prudent, wise, and certainly more safe, than to tell the Academy that its confidence had been abused, and to furnish the proof to that learned body that it had made so ridiculous a mistake as to cut a very sorry figure in the eye of the public,—I chose the latter.” Rash man thus to provoke a respectable body of learned Doctors!

He wrote to the Academy declaring his conviction, resting as it did upon two orders of proof—the one moral, the testimony of those who knew the prior perfection of Jenny Guéry's stature; the other scientific. Dr. Guérin thought the Academy would look to the scientific evidence, instead of which it preferred the moral view, the evidence concerning which, as regarded Madlle. Jenny, was particularly contradictory and embarrassing to right-minded men. Dr. Guérin's correspondents every where heard that in her native place Jenny passed for a handsome girl—alert in intellect and perfectly well made—nay, whose “*taille*” was one of the best in the country! On the other hand, her curer did not not fail in testimony

that the said Jenny had been cruelly deformed, of which all Paris had been persuaded when she was presented in the first instance, in fact one of the members of the Commission had christened her a "*culle de jatte*."

Long the Assembly, in grave debate, agitated this most complicated question, each party restricting themselves to the moral testimony which, being both black and white, was especially embarrassing. At last the Academy found out that with respect to Jenny there were not sufficient proofs before it that she had simulated the deformity or, consequently, deceived so grave and sagacious a body; and Dr. Guérin discovered that he had forgotten to allow for the little weaknesses and passions of man, even in a learned assembly, and that in the revelations which he had made, he had compromised in their own eyes, their gravity, wisdom, and infallibility; they were not neutral arbitrators and judges but partizans against him. Strange that he should never have read the pithy sentences of his countryman, La Rochefoucault, and better appreciated the influence of man's "*amour propre*." The Professor, however, hoped to be quit of all further ill consequences of his rashness at the price of this partial check—alas!

"Troubles do never come in single files,
But in battalions ever!"

And Jenny and her friends, inspired by this triumph, now assailed the Professor in a court of justice for defamation of character—and gained their cause. They failed, however, in either tiring or convincing their detractor, and he appealed to the higher tribunal of the *Cour Royale*; at the same time that he once more agitated the subject in the Academy, bringing forward scientific proofs of the absence of all morbid deformity. The plot thus thickened and a double action was carried on. In the first trial the decision of the Academy had been quoted as confirming the propriety of the sentence—but now that the same learned body saw the error of their ways and confessed they had been deceived, it was quoted in the *Cour Royale* as a strong reason for the Doctor's conviction. The first sentence therefore was confirmed, and M. Guérin condemned in costs and fined—as a "*Defamateur*."

Dr. G. at this stage made certain discoveries calculated to prove of great utility to all professional writers who trust to be held harmless under the shield of truth—if they would but profit by other people's experience without insisting on paying for it. These discoveries must be classed under the heads of moral and legal facts elicited in this momentous affair.

1. The law does not jest. Dr. Guérin had indulged, he tells us, in certain little pleasantries, and among others in that of following Boillean's example and calling things by their proper names. Not finding any more accurate term by which to designate a man practising medicine in the market-place without a diploma, than *Charlatan*, he adopted it, and rendered himself decidedly guilty of the crime of abusive language.

2. Since 1819, in France a law exists not sufficiently known: by this law he who publicly imputes to a citizen a reprehensible action, whatever be the proofs, is punishable as a defamer. Now defamation legally is defined to be "any allegation which injuriously affects the honor or consideration of another,"—of course the more true the allegation the more

surely injurious—the more certainly do you merit condemnation. These things and many others Dr. Guérin assures the world his treatise on the nature and treatment of simulated spinal distortion taught him—but, hélas, too late to be useful!

And here endeth this eventful history—thus wound up by the Doctor :—

“From the historical part of my memoir let us turn to its scientific aspect. Persons who have endeavoured to diminish the importance and authority of my researches have sought to reduce its proportions into that of a mere personal discussion. But independent of its value as a work of critical analyses, it embodies new facts in anatomy, physiology, and pathology, which give it a character purely scientific, &c.”

For these facts we refer our readers to the memoir itself, and should they ever feel inclined to call things by their proper names, obviously a very reprehensible practice, or be anxious to learn how to distinguish fictitious from morbid distortions of the spine, we strongly recommend their perusal of Dr. Guérin's Memoirs. It contains useful matter, notwithstanding that its readers may be, like ourselves, tempted to smile at its pleasant admixture of the grave and ludicrous, and of grandiloquent deductions from very Lilliputian facts—telling the oft-told story,

“How mighty contests rise from trivial things!”

We pass on to the other memoirs which are both more scientific in character and of more practical value, and first to the treatise on lateral curvature of the spine. We have also to draw attention to Mr. Tuson's volume on the same subject.

On taking up the latter work we were for some time at a loss to divine for what particular class of readers Mr. T. had designed his observations. Whether for nurses, mothers, students, practitioners, the lay public generally, or, finally, for each and all together. The matter and the style of the first 100 pages seemed but little adapted to any but the two first, and not the most sensible of these. Commencing at the earliest possible causes that might influence the growth and curvative of the spine, Mr. Tuson objects rationally enough to swathing with tight rollers the body of the new born infant, but no ordinary phraseology suffices for the purpose, it is not enough to say that no advantage, but much injury may arise from it. Mr. Tuson startles the nurse or the mother, whichever it may be, into conviction, by declaring it a practice,

“Which, being contrary to the laws of nature, and tending to obstruct her power and molest her laws, stands self-condemned!”

The author, however, improves upon acquaintance, and seems more clearly to address himself to the profession as he advances in his subject. He has evidently paid considerable attention to the subject and enjoyed fair opportunities of observation. The great object of the work to which the author very frequently recurs, would seem to be the necessity for ascertaining the *cause* of any deviation from the natural form in the spine, prior to determining the treatment for its removal. This is a principle so clear and trite that we scarcely should deem its enforcement required by any educated medical man, who to some learning could add a little common sense. Mr. T., however, evidently thinks otherwise; he tells us—

"There are works on affections of the spine, whose authors lay down and recommend one general plan of treatment, whatever be the cause of the complaint; whether scrofula, general debility, caries, or a softening of the bone,—whether the curvature be lateral, or in any other direction,—even angular projection is not exempted,—but one mode of cure is to be followed." 70.

And again, in reference to the labours of others in the same department, we are told—

"It is only of late years that scientific men—from some strange hallucination—have turned their attention to this disease; but all the treatises hitherto published—however excellent they may be when applied to specific cases—appear to me to partake more or less of theoretical reasoning. A disease presenting itself under so many different features, with the same characteristics, must require a specific treatment, adapted to each form it assumes: a mechanical contrivance, therefore, that would act with advantage in curing a deformity offering certain peculiarities, would have a diametrically opposite effect when it showed itself with other combinations. Hence it follows that *any one plan of treatment for all cases indiscriminately* must be fallacious. This palpable error struck me most forcibly on my first commencing my professional career, and time and observation have contributed to confirm it. I felt there was a large field for investigation,—a wide chasm that might be advantageously filled up."—*Preface*, p. x.

"Various plans have been recommended to remedy curvature of the spine, and the author of each has pertinaciously adhered to his own, treating all cases indiscriminately, and not looking, as should be done, to the cause of the curvature, and whether it be in a lateral or any other direction. Extension, rest, counter-irritation, instruments, pressure, exercise, &c. have each been recommended and used by their own advocates." 74.

This we cannot believe to be a very accurate statement of the practice or state of the profession as regards spinal disease, and we think does less than justice to it, and to the authors whom he himself quotes.

"But while I thus expose the ignorance of the empiric, let it not be supposed I condemn the works of those scientific men who have devoted their attention to the subject, and to whom the profession and the public are much indebted for useful and scientific observations on the affections and diseases of the spine. I submit the names of Sir B. Brodie, Earle, Shaw, Bradley, Bampfield, Thompson, and others; but I am not aware that these gentlemen have ventured to introduce or adopt any single mode or plan of treatment as applicable to all cases. Sir B. Brodie's observations on caries of the spine are well entitled to the attention of every practitioner. Earle's are scientific, and the means recommended by him useful, mechanical, and ingenious. The work of my departed friend Mr. John Shaw, will be found useful to all those who are desirous of better acquaintance with this subject: his plan of treatment was employed while I held the office of house-surgeon to the Middlesex Hospital, in several cases, with beneficial result. Bradley's observations are worthy of attention. Bampfield's work is interesting and instructive. Thompson's remarks may be read with attention, and his treatment may prove useful and advantageous *in some cases*." 75.

This is dismissing the claims of these gentlemen rather summarily, but yet proves that, as far as the *profession* is concerned, scientific men *have* given their attention to the subject, and that the pressing danger which Mr. Tuson seems to have very constantly before him of medical men treating spinal cases empirically—upon one system, without reference to the great diversity of causes, not less than differences in the nature of the disease resulting, is by no means apparent.

Dr. Guérin's able treatises on this subject shew that spinal diseases and deformities are studied with all the advantages which the present state of our general and professional knowledge afford. He tells us that his memoir is intended to make known a new method of effecting the straightening of lateral deviations of the spine by lateral or sigmoide extension, and by flexion—a mode based upon two new principles which are substituted for two old ones—oblique or perpendicular extension substituted for parallel—and flexion instead of compression. These principles, which he has here first applied to curvatures of the spine, are applicable to the treatment of all articular deformities.

In addition to this, the memoir contains certain general principles from which, in his other treatises, the mechanical treatment to be adopted for other deformities of bone are deduced.

Since experience has shown the insufficiency of medical means and the indispensable necessity of mechanical agents in the treatment of lateral deviations of the spine, a great number of machines have been proposed and adopted—all with a view to produce extension of the spine in its long axis, or in other words parallel, and pressure upon the convex portions of the deformities. This was first attempted by means of portative machinery or corsets resting on the hips—subsequently extension in a horizontal direction was substituted, the patients being placed on variously-contrived couches while the force in opposing senses was applied—and with this view, up to the present time, have all the various kinds of extending apparatus been devised. Thus, in two words, the mechanical treatment has been confined to *parallel extension* and to *lateral pressure*.

Notwithstanding many cases of failure from the indiscriminate and injudicious use of these means, enough benefit has resulted to leave no doubt as to the utility of mechanical treatment.

M. Guérin thus proceeds to explain his mode of mechanical treatment, and the principles on which it is founded.

“What have we in view to accomplish in the treatment of lateral curvatures of the spine in reference to mechanical agents? To straighten a stem curved in its length at one or more points. If this be given as a problem for solution, stripped of all organic circumstances, which only serve to obscure and hide its simplicity, and it be stated simply as a stem curved or bent, and to be made straight, there is no man even of mediocre intelligence who, with merely the benefit of common experience, will not present a solution of this question infinitely more satisfactory than all those hitherto proposed as a means of cure for a curved spine. What would he do in fact? In place of the spine put a flexible stem, of any material which is curved, into his hands—assuredly he would not commence by taking hold of the two ends and pulling in the direction of its length. With each hand he would fix the extremities and press the convexity of the curve against his knee—he would pull perpendicularly on each of the ends and produce a curve in the sense opposed to the only previously existing. He would not be content with stretching it until the first curve disappeared, because he would know by experience that, to obtain a complete and permanent straightening, he must go further, and make a curve in the opposite direction, in order to overcome the force which tends to reproduce the curve when we limit our efforts to merely bringing it to a straight line.

Thus would any one proceed in order to straighten any kind of curve in a flexible stem, and this is what I have sought to reduce to practice for the treatment of curvatures of the spine. The method which I have proposed consists in sub-

stituting artificial curvature in a sense directly opposed to those produced pathologically, so as to give to the vertebral column the form of an S in the reverse direction to that which the diseased curvature presents—in other words, it consists in substituting oblique and perpendicular for parallel extension of the spine, which I shall call the *sigmoid* extension, the mere name sufficing to indicate the object proposed and which, I believe, to be realised in the apparatus I am about to describe."

This apparatus we will not attempt to describe in all its detail, but refer our readers to the memoir itself; suffice it to say that it is constructed with a view to produce at the same time flexion and extension of the spine, thus greatly diminishing the *degree* of extension, otherwise required to conquer the elastic force of the muscular and ligamentous structure, which tends to reproduce the curve when the extension has ceased. The increased extension required, when alone employed, more especially when the spine is reduced nearly to its proper line, is followed by many evil consequences—the fibro-cartilaginous, ligamentous, and muscular structures corresponding to the concavity of the curves, are inordinately stretched and weakened, the antero-posterior curves, which are natural to a healthy spine, are obliterated, though of great importance to the solidity and natural figure of the trunk.

This, observes Dr. Guérin, is so true that the greater number of persons who leave the institutions where the bed of Wurtzbourg is exclusively employed, are flattened in the back—the shoulder-blades and different regions of the vertebral column being all on the same plane, destroying the natural grace and contour of the figure. A still more grave inconvenience results from the parallel extension upon the spine—separating the vertebræ from each other, in order to obliterate the curvature, has no action or tendency whatever to reduce the superabundant development of one half of the fibro-cartilage and bodies of the vertebræ corresponding to the convexity.

That such is the state of parts Dr. Guérin quotes the opinion of M. Ribes, supported by several pathological specimens, proving the impossibility of obtaining in any very short period a total cure of these lateral curvatures of the spine.

"It is only necessary," says M. Ribes, "to cast the eye upon these preparations to feel convinced that methodical extension, judiciously applied and long continued, can alone re-establish the natural condition of the parts—and, in order to produce this, it is necessary that the means adopted *should press the bodies of the vertebræ the one upon the other, on the convex side of the curvature*, so that, in pressing down on the one side, the compression may be diminished towards the concavity, and the morbidly thickened part of the vertebræ may gradually diminish while the vertebral column acquires its natural position."

This result is not to be obtained by mere parallel extension—that is in the long axis of the spine, and thus we may account for the constant tendencies to speedy reproduction of curvatures, even when apparently altogether removed by this kind of extension; the bodies of the vertebræ still remaining depressed on the sides where concavity had existed, below the level of the thickened bodies and fibro-cartilages on the convex.

Dr. Guérin states that extension in some cases is altogether inapplicable and only flexion should be employed, for which the apparatus he describes

is equally adapted. These cases he defines to be those where four curves exist, or several in the same region, or two curves in the dorsal region, or curvatures too near to each other in any part of the spine.

In January, 1836, Dr. Guérin commenced the treatment of fourteen cases, all young subjects under the observation of a Commission of the Academy of Medicine. Their report of the result at the end of fourteen months is highly satisfactory.

In this treatise M. Guérin has confined himself exclusively to the best means of the mechanical treatment.

Mr. Tuson enters at considerable length into the causes of various curvatures and the general treatment they require. He divides the subject of his work into—1, Diseases of the vertebral column producing curvature and deformity of the chest, trunk, and pelvis; 2, Diseases of the column unattended by this result; 3, Injuries of the column and their results. Under the first head he takes care to draw attention to the fact, that deformity of the spine by no means necessarily implies disease in the column, since it may be a result of morbid affections of any other part of the body, as for instance—disease in the hip, knees, ankle, foot, or a shortening of either leg—these cases he terms “secondary lateral curvature,” and the distinction is obviously one of great importance. We do not observe much deviation in the views he advocates from those common to the profession, except in his decided objection to the continued recumbent position; his reasons for a contrary practice are good, and seconded as they are by considerable experience, we have no hesitation in strongly recommending these opinions to the attention of our readers.

“To keep the patient constantly in the recumbent position is wrong, inasmuch as it prevents the muscles from undergoing the slightest degree of action, subjecting the joints, not only of the spine, but of the extremities, to become weak and stiffened. A physician of considerable eminence mentioned to me, whilst engaged in writing on the present subject, that he had been called professionally to see a patient who had been under the treatment of Dr. Harrison for four years, and who had been kept constantly in the recumbent position during the whole of that period. The consequence was, that the want of muscular action had deprived her of the use of her limbs. When an attempt was made to place her in a sitting posture, the joints were found to be stiff and incapable of flexion. She was doomed, therefore, to remain for the rest of her life upon a couch, perfectly helpless, and requiring constant assistance.” 78.

“In regard to Dr. Harrison’s plan of keeping his patient constantly in the recumbent posture, the benefits to be derived from it are that the whole spine, and very numerous muscles attached to it, are kept constantly in a state of rest and inaction; that the weight of the trunk does not press upon any of the bones of the spinal column; and that the whole weight of the head and arms is removed from the spine. So far I speak favourably of the recumbent position; but in all cases where the contrary is practicable, I would rather dispense with constant recumbency, and for the following reason, namely, that the general health of the patient is of the utmost importance, and that the functions of life cannot possibly be carried on properly when the patient is constantly lying on the back, and without exercise. Nature being thus unassisted, the muscles which beneficially press against the various viscera and other important organs of the body, and excite them to the performance of the functions of secretion, digestion, and sensation, are not brought into action. In many cases the constant recumbent position must of necessity be had recourse to; as when a patient, in consequence of

the rapid increase of affection of the spine, loses the use of the limbs, or where the limbs become so weak and debilitated as to be incapable of motion; and such cases are by no means uncommon." 86.

The author is equally opposed to the late Dr. Harrison's system of treatment as regards pressure.

"Dr. Harrison, during the time of employing extension of the spine, was accustomed to make pressure against the spinous and transverse processes, with an instrument flat at its lower part placed against them, and also against the oblique processes commencing at the upper, and gradually passing down the spine to its lower part: the curve being towards the right, his object was to push the bones towards the left side; and the lower curve being in the opposite direction, he endeavoured to push the bones straight, asking the patient if she did not find the bones yield to the pressure he employed.

There are great objections to this plan of making pressure upon the spine during the time of extension. In the first place, it must be obvious that the spine being pummelled and kneaded for an hour at a time, must run great risk of being injuriously affected, without the probability of gaining any ultimate good. Such pressure must on the contrary produce considerable irritation, by bruising the attachments of the muscles; and by causing their fibres to retract, it will only draw the bones out of their places. Whereas, if the muscles are kept in a quiescent state, and free from action, they would prevent the vertebrae from being displaced. The plan of extension is, I am fully persuaded, of the greatest benefit; but it must be lessened by pressure being simultaneously made upon the spine. It may be said that pressure against the muscles will relax their fibres, but then it ought to be made against the belly of the muscle, and not against their attachment to the bones." 82.

The following observation is judicious:—

"Gymnastic exercises are strongly advised by some practitioners, in addition to the use of artificial support, by which means the muscular structure in general will acquire increased power and strength; but if the spinal column be in a weakened or attenuated state, such exercise will, by placing the weight of the various parts of the body upon the spinal column, only increase the curve. If, on the contrary, such exercises be used when the weight of the frame is removed from the spinal column, the greatest benefit will be obtained, as will be hereafter pointed out." 91.

Mr. Tuson has devised a number of exercises which may be performed in the facial or dorsal recumbent position on the couch he is in the habit of using, tending to expand the chest and improve the tone of the muscular system; he says—

"The muscular system takes an active part in curing, or in causing affections of the spine to increase; and we must be very mindful in our treatment not to lose sight of this very important fact, for where in some cases the action caused by the contending power of opposite muscles will strengthen and invigorate the surrounding parts, and excite a healthy osseous secretion, so in others the conflicting power of the stronger muscle over its antagonist, will only displace the bone, increase the curve, and produce incalculable mischief." 135.

We pass over the second division of Mr. Tuson's work, wherein he treats of those diseased states of the spine, which are unaccompanied by deformity, to make a few observations on the chapter devoted to injuries of the spine, and certain operations, confining himself to those injuries where the spinal column itself is injured—leaving unnoticed injuries and other affections of the spinal marrow, a subject which he justly observes is full of physiological interest.

Mr. Tuson remarks that sometimes the arches of one or more of the vertebræ may be fractured and the bone depressed, so as to cause pressure on the cord, and as these accidents have proved fatal, he thinks it desirable to follow the example of the late Mr. Cline and Mr. Tyrrel, and treat them on the same principle as fractures of the cranium with depression. The cases are not quite analagous—the arch of the spine is deeply covered and considerable violence and disturbance must attend any such operation; the two cases in which this method was attempted were both fatal. We should be inclined to say that under these circumstances, and with the present uncertainty as to the signs of *concussion* of the spinal cord as distinguished from its compression, the operation should not be lightly undertaken nor indiscriminately adopted in every case of paralysis from injury of the spine, otherwise many cases, which now ultimately do well, are likely not only to be unnecessarily subjected to a more or less painful and dangerous operation, but placed under unfavourable circumstances for recovery. “Modern surgery,” which Mr. T. says, “amidst all its improvements has left this accident to take its chance, without lending a helping hand to assist nature in remedying the injury,” may have exercised a very sound discretion which is not only the better part of valour, but of surgery also. The mania of the present day is to meddle, to lend what is called a “helping hand,” which often proves anything but beneficial to the patient.

Mr. Tuson next proceeds to consider the subcutaneous division of the muscles, or their tendons, for the cure of spinal curvature, and here he is somewhat more cautious in his opinion—he says :—

“One fixed rule, however, I may venture to lay down, which is, that the operation must be confined to cases of simple lateral curvature, where the disease is entirely owing to the undue action of muscles, and where the spinal column is not the seat of disease; for it must appear evident, that where the bones of the spine are diseased in any way, the simple division of a set of muscles would only give an ascendant power to their opponents, and produce deformity in another direction. Again, it is not all cases indiscriminately of simple lateral curvature that may be selected as fit subjects for operation; a healthy diathesis is an essential and indispensable requisite; for if there is any constitutional disease, such as scrofula, &c., the use of the knife may be productive of the very worst consequences.” 271.

Two of M. Guérin's memoirs are devoted to the subcutaneous operations for the division of muscles—one for confirmed wry-neck, and the other for club feet.

In reference to the operation for wry-neck, described in this memoir, the author informs us, that it rests upon two facts of pathological anatomy, which he believes to be new :—

1. In wry-neck the contraction and arrested muscular development are for the most part exclusively limited to one of the two heads or divisions of the sterno-cleido-mastoid muscle, and most frequently the sternal division, which he considers anatomically and physiologically a muscle distinct from the cleido-mastoideus or clavicular division.

2. There is in this deformity, independent of the inclination of the head on the side of the retracted muscle, an inclination in an opposite sense of the cervical column on the dorsal region, which invariably continues after the section of the muscle.

These two facts led him, on the one hand, to simplify the surgical operation by section of the contracted muscular fibres of the sternal portion only, and this by means of a simple puncture through the skin : and on the other, by the invention of a machine, or apparatus, calculated by consecutive treatment to restore the position of the head and remove the cervico-dorsal curvature. This mechanical and consecutive treatment being as indispensable for the attainment of a cure as the division of the contracted muscular fibres by the knife. To effect the former, Dr. G. has invented what he terms an orthopædic couch—into the description of which we will not however enter.

How far Dr. Guérin has the merit of first proposing and performing the subcutaneous operation for these cases of the muscle, and in the majority of cases of the *sternal* division only, it is needless here, at least, to discuss at any length ; the improvement, doubtless, is most important, and the consecutive mechanical treatment, reduced as it were to a system by Dr. G., is no less obviously an essential element of cure. The methods in practice before the mode indicated by Dr. Guérin were not only unsightly and dangerous in their results, but ineffective.

In 1822, it appears, M. Dupuytren led the way to this improved method of operation, differing only in this, that he passed the point of the bistoury through on the opposite side of the muscle, and sawed through the fibres as it were without dividing the skin above. Stromeyer, later, with a similar view of saving the skin, pinched up a fold of skin parallel with the muscle, and, pushing a bistoury through the base of this fold, divided the muscle from its anterior to its posterior surface, making only two small incisions through the skin. Finally, in 1832, Mr. Syme, in Edinburgh, performed a similar operation apparently much in the same manner as that adopted later by Dr. Guérin with a single puncture.

The memoir on congenital club foot contains some interesting researches as to its causes, tending to prove that this deformity results from convulsive muscular contractions in the foetus, and depend upon an abnormal state of the cerebro-spinal nervous system—producing first, a shortening or contraction of the muscles of the leg or foot ; secondly, a certain degree of paralysis ; and, thirdly, an arrest of all consecutive development, which prevents their proportionate increase with the accompanying enlargement of the bones, and thus during the growth of the skeleton continually increasing the deformity.

We must defer any observations on the memoir devoted to Rickets, and conclude with an assurance to our readers that these treatises of Dr. Guérin's will amply repay perusal.

HINTS FOR INVALIDS ABOUT TO VISIT NAPLES ; BEING A SKETCH OF THE MEDICAL TOPOGRAPHY OF THE CITY, AND ALSO AN ACCOUNT OF THE MINERAL WATERS OF THE BAY OF NAPLES, &c. By J. C. Cox, M.D. 8vo. pp. 190, Longmans, 1841.

WE apprehend that it is with climates as with Spas—the air of the one, and the waters of the other, being over-estimated by those physicians who reside or practise on the spot. Dr. Cox assures us that this is not the case with him—that he is rigidly impartial, and without the slightest bias or prejudice in favour of the beautiful city and bay of Naples. We acquit him of all intentional embellishment or wilful exaggeration ; but when we bear in mind that the Doctor owes his own life, and that of some of his family, to the climate described, we can hardly avoid the conclusion, that *gratitude* has disposed him to look with a favourable eye on the bright side of the picture, and draw a shade over the ruder features of the scene. Dr. Cox, however, is a sensible and intelligent investigator of his subject, and we are inclined to attach much confidence to his statements.

Our author has now resided some years in Southern Italy, and, as we before observed, has derived, together with his family, great benefit from the climate of Naples and vicinity. The superior longevity of the inhabitants of Great Britain, as compared with those of Italy, and, indeed, all parts of the Continent, presented a stumbling block on the very threshold of our author's inquiries. He has got over it in the following ingenious way.

“ It may be alleged that the rate of mortality is less in Great Britain than in most other countries ; and that *that* country must be the most healthy in which the fewest die. *But the physician has to do, NOT with the rate, but with the exceptions.*”

The meaning of this is, that if the inhabitants of Great Britain were transplanted to Italy, the rate of mortality would be increased ; but that certain constitutions and maladies, forming the exceptions, are benefited by a change from the fogs and rains of England to the brilliant skies of Italy. To this position we see no objection.

The beautiful city of Naples, the ancient Parthenope, is divided into two quarters or climates by the Pizzo-Falcone hill, which extends into the sea, with an ancient castle on its most projecting point. The finest climate is possessed by the division, between Posilipo and the Falcone, stretching about the bay, and facing the south. Here the chief visitors reside, defended from the westerly and easterly winds by a range of hills, on the crest of which is placed the Castle of St. Elmo—the ornament and defence of Naples. This plain, formerly a marsh, is now well drained and fruitful. Naples has a mean temperature of 61° Fahr. and is refreshed by sea and land breezes during the summer months. Fine weather is said to be continuous from April till November, interrupted only by the solstitial and autumnal rains. The temperature is rarely above 86° or 88° at noon in the shade. In Winter, the temperature is seldom

below 40° to 44° at night. The following table exhibits the mean average of the thermometer for the several months in the year :—

MONTH.	Mean Temperature.	Number of Rainy Days.	MONTH.	Mean Temperature.	Number of Rainy Days.
January.....	45°	6	July	76°	3
February ...	48°	7	August	76°	4
March	52°	5	September..	71°	8
April	57°	8	October.....	62°	7
May	66°	6	November..	55°	3
June	70°	none	December ..	51°	8
Average number of rainy days 65.					
Mean Temperature Fahrenheit 61.					

The Appenines are not covered with snow till the middle of February, from which time till the melting of the snows, Naples is liable to the cold tramontane winds—a condition to which Naples is not alone exposed, since Nice, Genoa, Bologna, Florence, and even Rome itself, share the same scourges. The sirocco is still worse than the tramontane.

“The effect of the Sirocco, even at Naples, is very oppressive to the nervous system during the heat of summer, although it is not felt there nearly so severely as at Palermo. All nature seems to suffer from its influence, the air is still, the sea calm and leaden, the vine and the fig tree hang their leaves, animals are languid and oppressed, and the whole atmosphere is in a highly electric state. How changed are the sensations, when this electric condition is altered! the lightning flashes from mountain to mountain; Vesuvius, that mighty agent of electric influence, appears to be the centre of its action: the thunder rolls in terrific peals, increased in a tenfold degree by reverberation; then falls the rain, and all nature is refreshed; the depression of the nervous system ceases, and is succeeded by a delicious state of excitement and exhilaration.

These storms have a great and painful effect upon delicate and susceptible nervous subjects, but the change of weather removes the irritation or depression, and restores the *bien être*.” 16.

While writing these lines we were visited by a nobleman, who, with his lady, had resided in Naples during the last Winter, 1840-1. They both declared, that no earthly consideration would induce them to encounter again the siroccos and tramontanes of Naples. The gentleman had gone to Italy for his health and returned worse than when he left home.

“The soil of Naples is of a light sandy character, and resting upon a porous Tufa, through which water readily percolates. Hence the effects of rain quickly pass away, and as soon as the storm subsides, the invalid may with safety walk in the Villa Reale. Wells are easily made in this tufous rock, and water is found very near the surface; but it is brackish and unwholesome, producing diarrhoea and dysentery in strangers.” 19.

Care should be taken by foreigners that water is procured from the fountains, and not from the wells of Naples. The markets are well supplied with wholesome food at a moderate price.

“The effect of the neighbourhood of a volcano on the human frame is very little observed or understood. That a very powerful electric action is going on in

Vesuvius, and other volcanoes, no one can doubt. The constant change that takes place in the chemical relation of bodies acted on by it, must necessarily cause the evolution of electricity to a prodigious extent. These phenomena become sometimes cognisable to our senses; clouds are formed over the cone, or attracted to its side, from which they are awhile suspended, and then are detached and repelled. Sometimes dark volumes of cloud collect over the horizon, while the thunder pealing in the distance indicates the rapid approach of storm. Attracted by the mountain, the lightning flashes down the crater, while the fearful rolling of the clouds encircling it reverberates in oft repeated echoes from its sides. A calm succeeds, and all is dispersed. What is this but the electric agency of the mountain? The effect on some susceptible and nervous subjects is very striking, causing headache, general nervous pains, great irritability of the system, sleeplessness, and an almost irrepressible degree of excitement. The influence of so powerful an electric agent in such cases, is manifestly injurious." 24.

The highly stimulatory air of Naples renders it a precarious, not to say dangerous, residence for people of irritable temperaments. The city itself is not subject to malaria, but many parts of the neighbourhood, as Averno, Agnano, and Fusaro, are very insalubrious, as is the whole plain west of Posilippo, and the country around Pozzuoli, Baïæ, and Cuma. The population of Naples is 380,000, the deaths one in thirty.

Dr. Cox, in his third chapter, takes up the question—"Is Naples a good Winter residence?" The months of September, October, November, December, and January, are stated by our author to be "beautiful, and of a temperature very favourable for an invalid." During these months, exercise may be taken in the exploration of the classic environs of this ancient capital. The months of February and March may, he thinks, be passed without danger, if common precautions are taken. During these months, the invalid should restrict his rides to the Riviera di Chiaja, the shores of the Bay of Baïæ, or the Strada Nuovo; return home by four o'clock, and shun evening assemblies. Great attention to dress is necessary.

"With moderate precaution then, the winter, if it may be so called, may be passed without inconvenience or danger; and during this season, Naples offers advantages as great, or greater than any city on the Continent. Rome has no walks so well defended as the Villa Reale; one side of the street often glowing with the heat of summer, while the other is cold and damp as winter. Florence is the least eligible of all places for the invalid in winter, though lovely and delightful in spring and autumn. Nice has the Maestrale, which is almost irrespirable. Pisa, perhaps, along the Lung Arno, is the most defended of any place; but, if the patient extend his walk beyond this limit, he is stricken with the cold blast; and in the *agrèmens* of society both of Rome and Naples, it is very deficient." 31.

The Museo Bourbonico offers a good winter lounge; but it is to "be visited only with thick shoes, woollen socks, and a warm cloak." "Naples is not a desirable residence during July or August, excepting on the hill of the Vomero, or at Capo di Monte, above the city." The heat of the atmosphere reflected from the lava in the streets is excessive, and much more difficult to bear than that of the East and West Indies. Castellamare is then the refuge from Naples.

To the question—"What are the diseases benefited by the climate of Naples?"—Dr. Cox very properly answers—"Certainly not consumption in its latter stage."

"But there are many forms of bronchial phthisis in which the air of Italy effects great relief, and even removes the disease. Where severe bronchitis has existed, succeeded by continued cough, with suspicious expectoration, tendency to hectic fever, but with the chest tolerably free on percussion; mucous rattle without pectoriloquy, and no emaciation, in such cases the air of Italy often effects wonders.

In the winter's cough of old persons, with great bronchial irritation, the effect of the air of Naples is also most beneficial.

In cases of hæmoptoe, where has pre-existed irritable mucous membrane, only with slight hæmorrhage from the lungs or throat, and emaciation, such cases, indeed, as have been treated for consumption with severe and depressing remedies, the air of Naples is most specific. In cases of hæmoptoe with tubercles, or in hæmoptoe of an active kind, the air is too stimulating to effect more than a transient benefit.

Where there has been reason to fear incipient tubercular disease, manifested by slight hacking cough, with dullness on percussion over some part of the chest, tested by auscultation, and the general health delicate and languid, in such cases the pure marine air of Naples often dissipates the bad symptoms, and restores the health.

In those persons who suffer from bronchial irritation, associated with disordered health, from residence in hot climates, with biliary obstruction, and yellowness of the skin, Naples is a most desirable winter's residence; where the mineral waters of Castellamare are at least equal to those of Cheltenham, or even superior to them.

In some cases of humoral asthma it is very useful; while in other form of asthma the atmosphere is objectionable, and the air of Rome is more salutary.

In dyspeptic cases, of various grades and forms, Naples is usually beneficial; as also in hysteria, and hypochondriasis, with nervous debility, and depression of spirits; but when the latter symptom occurs in full and plethoric habits, its climate is too stimulating.

In many cases of neuralgia, especially those of rheumatic origin, the uniform temperature and tonic atmosphere of Naples in summer, are exceedingly useful. A lady who suffered severely from tic douloureux, was quite free from it, while she remained there.

In children suffering from scrofula, in whom the climate of England is constantly predisposing them to tracheal, or pulmonary inflammation, having enlarged tonsils, and irritable lungs, with a tendency to obstruction of the mesenteric glands, and general strumous predisposition, the dry marine and electro-tonic atmosphere of Naples acts as a charm." 40.

Our author thinks that the air of Naples is too stimulant in many cases of gout—that of Rome is preferable. The baths of Ischia are beneficial in many cases of rheumatism.

"The constant influence of a climate so stimulating as that of Naples, tends greatly to increase the general irritability of the system. To those who come only as occasional visitors this is less obvious; but, after living two or three years there, it becomes very evident. Our countrymen pursue their usual mode of living, instead of adopting the habits of the country in which they reside: they take a large proportion of animal food, and drink the strongest wines, in their accustomed quantity; hence, after being a few months exposed to the climate on this uncongenial diet, they are frequently attacked with fever, and sometimes with phrenitis. It is perhaps preferable to adopt, in some degree, the customs of the inhabitants of the countries in which we reside; and, in this instance, to take a larger quantity of vegetable, and less of animal food, and to reduce the quantity of stimulant." 43.

The foregoing observations of our author, though probably a little tinged in favour of his darling Italy, are, upon the whole, judicious, and are worthy of attention on this side of the channel.

MINERAL WATERS.

Naples and its vicinity present some important spas. Those in Naples are the Acqua Solfurea di Santa Lucia, and Acqua Ferrata di Pizzo-Falcone. The former is a simple sulphur water, analogous to that of Moffat, of limpid sparkling appearance, containing sulphuretted hydrogen gas. It is frequented in the months of June, July, and August. The Acqua Ferrata rises at the bottom of a cavern, brisk, and sparkling, decidedly chalybeate in taste, and a good deal resembling the water of Tunbridge, but containing much more carbonic acid. The medium dose is three pints, taken in the morning fasting, with intervals of exercise. Its reputation is very extensive in Italy.

The Acqua Bagnuoli rises on the shore of the bay of Baiæ, two miles from Naples, beyond the Grotto of Posillippo. It contains 38 grains of saline matters in the pint—chiefly carbonate and muriate of soda, and has a temperature of 107°. It is chiefly used in baths; but is also taken internally.

A most powerfully astringent water springs up in the crater of Solfaterra. It is of a harsh styptic taste, and exceedingly astringent. It is used by the poor of the neighbourhood in leucorrhœa, blennorrhœa, hemorrhoids, passive hæmorrhages, dysentery, &c. The pint contains 21 grains of alum, and five of sulphate of iron, besides many other ingredients!

Near Pozzuoli there is a spring nearly resembling the waters of Weisbaden, "*which are red and stain the skin*" a fact that we have never before observed, though we have often dipped into the waters of the Kockbrunnen.

Our author gives an account of the mineral waters of Pozzuoli, where one of them is situated in the ancient temple of Serapis. The thermal springs here shew a temperature of 106°—in colour transparent—taste slightly saline—odourless. They contain 29 grains of saline matters in the pint—11 of which are carbonate of soda—2 carb. magnesia—4½ sulphate of soda—9 muriate of soda—half a grain of carbonate of iron. They are considered analogous to the waters of Teplitz; but this is a great mistake, for the Teplitz waters contain only five grains in the pint, two or three of which are carbonate of soda. The cold springs of Serapis contain about 45 grains in the pint, 24 of which are muriate of soda—ten of carbonate of soda. They are represented as analogous to the waters of Ems.

Still farther on the road to Baiæ, beyond the Lucrine lake, are the baths of Nero, issuing from a cavern on the side of a hill, something like Pfeffers in the country of the Grisons. The cavern is filled with steam and the source is at a temperature of 180°—considerably higher than the Sprudel, at Carlsbad. The cavern itself is almost too hot to bear, producing quick and copious perspiration.

These are the principal mineral waters which exist in Naples and its neighbourhood. In this short circuit are found waters of different composition, sulphurous, chalybeate, aluminous, saline, alkaline, and acidulous; of temperatures varying from 60° to 180° of Fahrenheit. These varied springs are found in a country of the most picturesque character, of a climate exceedingly delicious, and in situations full of classic and scientific interest." 62.

ISCHIA.

This is one of the most interesting of the Mediterranean Islands, whether we regard the beauty of the scenery, the softness of the climate, the fertility of the soil, or its geological structure. Its thermal waters are of great variety in temperature and composition, abounding in saline materials and gaseous impregnations. The island is 20 miles South West of Naples, ten miles from Misenum, and presents the appearance of a conical mountain rising out of the sea 2450 feet. It is like a garden covered with vines, and tempered by the sea. It bears the marks of an extinct volcano, the last eruption of which occurred more than 500 years ago. Hot springs exist here, of various temperatures, up to more than 200° of Fahrenheit. Hot vapour also rises in various places from the earth. The sands on different parts of the coast are almost too hot for the hand—even in the sea, where bathing is practised. The island presents great facilities for sea-bathing. The most important spring on the island is *Gurgitello*, in the valley of Ombrasco, and furnishes water in abundance.

"There is a large bath-room, containing seventy-six baths, of which ten are fitted up for applying warm douches to any part of the body; and also a capacious sudatorium, or vapor bath, which is not, however, completed. There are twenty-one private baths, moderately well kept." 83.

The water is clear to the sight, unctuous to the touch, and rather nau-seous and saline to the taste. It contains abundance of carbonic acid gas. Mud-baths are established here, at a temperature of 128°, consisting of sediment, carbonate of lime, and other earthy matters. Each pint of this spring, which shews a temperature of 158°, contains 40 grains of saline matters, of which 20 are common salt, 18 carbonate of soda, the other two being made up of various salts, with a mere trace of iron. It is considered analogous to Carlsbad, though the latter contains 20 grains of sulphate of soda, and the former none. The Carlsbad waters shew ten grains of carbonate of lime, whereas those of Gurgitello contain little more than half a grain.

"The *Acqua Gurgitello* is administered both internally and externally. Invalids usually take two or three pints in the morning, with intervals of half an hour between each glass, which are best employed in exercise. The baths must be used under the direction of one of the physicians of the island, who are best acquainted with the peculiar effects of the course. As is common during the employment of mineral waters of this powerful character, a certain degree of constitutional change is produced in a shorter or longer period, which must be watched and carefully regulated; although it is rarely so great as to require more than a partial suspension of their use. This effect ordinarily precedes, and is commonly attended by, some alleviation of the malady; hence it is probably produced by the absorption of the mineral water into the system. It is better

to take two courses of the baths, of four or five weeks each, leaving an interval of ten or fifteen days for the invalid to recruit his strength." 87.

This "BAD-STURM," we apprehend, has been too often the effect of inattention to the bowels of the spa-bibbers, rather than to a salutary operation of the waters. If it be a *salutary* crisis, it surely ought not to be checked—if not, it ought to be prevented. We leave the Spa Doctors to choose which horn of the dilemma they may prefer.

"The waters of Gurgitello have received ample testimony of their efficacy in various diseases ; in gunshot wounds ; in fistula ; in rheumatic affections ; in the sequelæ of gout ; in old ulcers ; in uterine diseases, as dysmenorrhea, amenorrhea, irritable uterus, and sterility consequent on that state ; in paralysis, especially as the result of fever ; in glandular and other scrofulous diseases ; in dropsical effusions, arising from exposure to cold or humidity ; in chronic peritonitis, and other chronic inflammations ; in contractions of the limbs ; visceral obstructions, as of the liver, from living in hot climates ; and of the spleen, or pancreas, the result of intermittent fever ; in obstruction of the mesenteric glands ; in irritable bladder ; and nephritic disorders ; in repelled eruptions ; in pains of the bones, and other syphilitic affections, or the consequences of mercurialization ; in old Indians who have been injured by climate and excesses, in whom the effects of the climate of England are often prejudicial ; in the man of dissipation, whose constitution has been debilitated and impaired by indulgence ; in all these cases, the baths of Gurgitello, and the beautiful atmosphere, and tranquil seclusion of Ischia, are most strikingly beneficial. But there are neither gaming tables nor balls ; the short period of sojourn there is devoted solely to the recovery of health ; and those who have other objects, may drink the water of Baden-Baden, or Wiesbaden." 90.

The Acqua dell' Occhio "is smooth and agreeable to the skin, and has an exceedingly pleasant effect upon the surface, similar to the waters of Langen-Schwalbach." Here the worthy doctor has made a great mistake. Langen-Schwalbach is a strong chalybeate, corrugating instead of smoothing the skin. The waters which bear any analogy to those of *Осchio*, are *Schlangenbad*.

We must pass over at least a dozen of other mineral waters springing out of the soil, or rather the lava of Ischia.

"In various parts of the island of Ischia are fumaroles, which are apertures in the soil, from which hot air or vapor is emitted. In certain places these are made subservient to medical purposes ; small buildings are erected over the fumarole, and earthen pipes so arranged as to conduct the vapor to different parts of the body. These stufe, as they are termed, constitute most valuable natural vapor, or hot air baths, which are applicable to various disorders. The vapor is not, however, in any degree medicated, but is simply the vapor of water, as the condensed fluid clearly shews. Nor is the hot air medicated with any particular gas, or volatile body, but is simply atmospheric air heated to a given point. The vapor is emitted at a temperature of from 130° to 140° of Fahrenheit ; but the quantity may be modified so as to adapt the temperature of the room to the malady and the feelings of the patient." 130.

"How wonderful then, and how numerous are the medical resources of this extraordinary country. Surely no spot of fifteen miles in circumference ever afforded so vast a series of interesting phenomena. The Ischiote girl boils her vegetable meal in a stream, hot at its source ; and, in the heating of it, a fire is employed, compared with which, that which burns for the preparation of the grandest city entertainment is but as a spark. The vine dresser, returning in the

evening from his toil in the southern sun, cuts a trench with his hoe in the sand on the sea shore ; in a moment it is filled with a hot and mineralised water, in which he bathes his feet, swoln and tender from the rugged stones and scorching heat to which they have been all day exposed, bare and unprotected. He sits on the ground ; and, while enjoying his luxurious pediluvium, he carols his airs, with all the liveliness and gaiety so characteristic of the Ischiote peasantry ; and after a quarter of an hour's bath, he pursues his way home, refreshed and recruited. The fire which warms his foot-bath is the same as that which kindles Vesuvius, and which bursts not in Ischia, only because it has its exit elsewhere. The matron needs no other fuel to heat the water in which she washes the linen of her family, Nature has supplied her with an inexhaustible abundance, at a temperature hot as her hands can bear, and ready charged with alkaline ley from the bowels of the earth." 136.

CASTELLAMARE.

At the eastern corner of the bay of Naples, and at the base of an Apennine-ridge, lies CASTELLAMARE—the Ramsgate of Naples, containing 24,000 inhabitants. It was overwhelmed with lava and ashes from Vesuvius in 79, when Pompeii and Herculaneum were buried. Though the town is built on the level of the sea, yet numerous villas are scattered up the neighbouring acclivities for the accommodation of visitors. The temperature of the air here is eight degrees lower than at Naples in the day, and ten or twelve at night. There is no malaria around Castellamare.

The mineral waters of Castellamare are numerous and various. They rise from the limestone rock at the foot of Monte Gauro, and have a temperature of 65°.

Some of them are sulphureous, and most of them chalybeates—almost all combined with salines—the proportions of which Dr. Cox gives in separate tables. Thus, the acqua solfurea del' muraglione contains 70½ grains of solid matters, of which 42 grains are muriate of soda—6 bi-carbonate of soda—2 carb. magnesia—2 carb. lime—4 sulphate of soda—5 muriate of lime—3 muriat. magnesia, with some minor materials, including traces of iron.

"The properties of this mineral water are very important. In obstructions of the viscera, of the liver, spleen, pancreas, or mesenteric glands, in obstinate constipation, in hæmorrhoidal affections, in all diseases of plethora, in apoplectic diathesis, in epileptic tendencies, in obesity, in all those cases this water is often exceedingly valuable ; and also in cutaneous diseases, in suppressed eruptions, in chronic psora, used both externally and internally, it is very beneficial. Its action on the bowels, in clearing out the intestinal canal, is prompt and efficacious. When taken in moderate doses for some time, it unloads the portal system and produces a feeling of lightness and of health. As, however, its action is often considerable, producing very profuse evacuations, it should be used with caution, and not in great quantities, excepting under proper direction. It is beneficial in gouty cases of a tonic character, but it is not proper in atonic gout, when the patient is much debilitated. The power of this water in some cases of dropsical accumulation is very striking ; the discharge of large quantities of liquid evacuations, and great diuretic effect, fulfil two very obvious indications in these disorders, and have the happiest results, especially being combined with a pure and tonic atmosphere. It is peculiarly celebrated for relieving obesity, to which the Italians are much disposed from their indolent and sedentary habits, doubtless

induced by climate, and which is especially observable in females. There are few mineral waters so rich in saline constituents as the two *Acqua del Muraglione*, and scarcely any in which the medical effects are more decidedly useful, when properly administered." 173.

Dr. Cox concludes thus :—

"We have now given a rapid sketch of the mineral waters of Castellamare, and have shewn that they are analogous and equal to the most celebrated waters of Spa, Pyrmont, Seltzer, Tunbridge, Leamington, Kissingen, Cheltenham, Harrogate, Schwalbach, Ems, and Tœplitz ; that they are in many instances superior, as being richer in saline ingredients, and that they are in abundant quantity and occurring in a most lovely climate. It has also been shewn that at Ischia, and at Pozzuoli, thermal springs in great profusion and of the highest character abound, in strict analogy, both in temperature and composition, to the distinguished baths in Germany, Carlsbad, Wiesbaden, Baden-baden, Wildbad, and Gastein ; and that there are others which are of very rare and important chemical composition." 176.

If the above representation be correct, and we have no reason to doubt its accuracy, a new field is open to our spa-goers, many of whom would prefer the beautiful shores of Italy in the Summer to a long journey over the Alps from Italy, to the spas of Germany. It is on this account that we have given a fuller review of this volume than we otherwise would have done, in order that medical men in this country may be able to communicate important information to such of their patients as are proceeding to Italy for their health. The volume itself may be safely recommended to the invalid, as a topographical as well as medical guide to Naples and its vicinity.

RESEARCHES ON OPERATIVE MIDWIFERY, &c., with Plates. By
Fleetwood Churchill, M.D. Dublin, 1841, pp. 360.

THE present work of Dr. Churchill contains seven essays upon Operative Midwifery, one upon the *Funus Umbilicalis*, and a Report of the Dublin Western Lying-in Hospital : to these are appended a pretty copious midwifery bibliography, and plates of the various obstetrical instruments.

Midwifery, in its transition from an art to a science, has had to encounter many discouragements in this country. First, its very name, "man-midwifery," is a rude jargon in sound, and derogatory in its etymology. Then, in the place of assisting in elevating the character and position of its professors, a portion of the profession has by its influence and conduct contributed to a contrary result ; it is only at the present day, (among other evidences of a commencing, but tardy, appreciation of their true position and interest) that the College of Physicians has rescinded the prohibition of their Fellows to practise as accoucheurs. Add to all this, the utter want of tests as to proficiency on the part of those who undertake its responsible duties, which may, indeed, be legally assumed by

any old wife or chemist's apprentice. Surely it is time to consider whether we shall continue to deliver up to any ignoramus, who may have the hardihood to undertake them, the treatment of some of the most fearful emergencies to which the fairest portion of the creation are liable. Still, in spite of all these obstacles, midwifery has flourished in this country; and we can, with equal pride, point to practical results, and to the list of distinguished men who have practised it.

Necessarily much of the first portion of this book is statistical, and we quite agree with Dr. Churchill in the following passage:—"I do not wish to overrate the value of statistics, at the utmost they only afford an approximation to the truth, owing to the numerous drawbacks from their exactness—but, nevertheless, I cannot doubt that they are of considerable value, and are, at least, available in pointing out the relative importance of each operation." Medical statistics have been as much overrated on the one hand, as they have been inefficiently appreciated on the other. Unquestionably, they are open to numerous fallacies, and the *cæteris paribus* is of difficult attainment. But if in any one branch of the profession they are likely to prove useful, it is in the obstetrical; as in it the whole facts of the case are more easily brought into view, and hence are susceptible of a more accurate comparison and generalization.

I. INDUCTION OF PREMATURE LABOUR.

This, one of the greatest improvements in modern midwifery, has been received in a very different manner in our own country and in France. Not rashly introduced by our predecessors among the allowable operations, but received after calm deliberation, it has since obtained the sanction and approval of almost every name of note among us. The reason is plain, the cavils and sophisms of divinity doctors entered not into the deliberations, but the dictates of common sense prevailed. Our neighbours, on the contrary, cramped by the mandates of the Sorbonne, and permitting themselves to become involved amid the mazes of priestly casuistry, have turned with horror from the idea of interrupting Nature's operations, and calmly proceeded to the performance of the alternative (with them)—the *Cæsarian* section.

The attention of practitioners was first drawn to this operation by observing accidental premature labour prove, in some cases, the means of preservation of the life of a child, which, owing to the degree of pelvic distortion present, could never have been born alive or un mutilated at the full period. By the artificial induction of this process then at a viable period of the child's existence, a chance would seem to offer itself for its preservation, while the mother would be saved the horrors and dangers of the operation of craniotomy. The operation, then, in its conception was most plausible, and in its results has proved most satisfactory. From among the great number of cases now referred to by Dr. Churchill, he finds that more than one half the children were saved, and thus, at all events, giving them the same chance of living possessed by seven months' children; while, again, in regard to the mother, her life is placed in much less peril than it is in those cases which, left to the full time, necessitate

the operation for lessening the size of the foetal head. Thus, out of 161 cases but 8 mothers died, and 5 of these from causes unconnected with parturition.

In reference to the *comparative utility* of the operation, Dr. Churchill has the following passage.

"It is peculiar to midwifery operations, that they form ascending series, increasing in gravity from the simplest to the most severe—no two being equal; and therefore, in considering the suitability or practicability of any one, we do so with the knowledge that, if the one we prefer does not succeed, we must have recourse to another more severe and more dangerous. An example will make my meaning clear. If, in any given case, we attempt to deliver with the forceps, but are not able to succeed, we must subsequently have recourse to the perforator; there is no other method, of *only equal* severity with the forceps, which we can try. Or again, if craniotomy and evisceration will not render the transit of the child possible, we have no resource but symphyseotomy or Cæsarean section.

Thus, the *alternative* of any operation in midwifery is not one of *less*, or even of *equal* danger, but necessarily one of a *more serious nature*, and consequently we cannot estimate the utility of any obstetric operation fairly, if we consider it by itself; a just appreciation involves a due estimate of its alternatives." 12.

Applying these remarks to the cases in question, he states, that by the use of the perforator about one in five of the mothers perish. By the Cæsarean section 1 in $2\frac{1}{2}$ mothers, and 1 in $3\frac{1}{2}$ children are lost, and by symphyseotomy one third of the mothers have been lost (those recovering even, often continuing great sufferers), and only one half the children were saved. "If then, to the *absolute* advantages of the operation proposed, be added the *comparative* gain from avoiding these terrible *alternative* operations, we may form a tolerably correct estimate of the *utility* of the induction of premature labor."

In considering the cases to which this operation is applicable, the ascertaining the relative sizes of the pelvis, and the foetal head in its progressive development, is of importance. Dr. Churchill presents tables of these.

"It will at once be observed," he says, "that there are two measurements of the pelvis which limit the operation: if the pelvis exceed the greater measurement, the operation is uncalled for; and if less than the least, it will not succeed in saving the child. The smallest of these diameters appears to be about $2\frac{1}{2}$ inc. and the greater 34. If the pelvis, in its sacro-pubic diameter, be less than the former, a '*viable*' child will not pass, and it is generally admitted that a living child may be propelled through a pelvis whose antero-posterior diameter is $3\frac{1}{2}$ inches." 16.

Other cases, besides that of a deformed pelvis, may demand and justify the induction of premature labor, as exostosis, or fibrous tumors of the pelvis, as also when the uterus itself is the seat of fibrous tumors; which, during the latter months of pregnancy, take on, as described by Ashwell, a more active state of diseased action, often terminating in the death of the mother.

Of another class of cases, in which the saving the child's life is out of the question, Dr. Churchill observes;—

"But there are cases in which the distortion is so great as to render the passage of a seven months' child impossible, and others still worse, where no reduction of the child's bulk will enable it to pass. I do not see why abortion should not be

induced at an early period in such cases. The life of the child must inevitably be sacrificed, and the safety of the mother alone regarded; and surely, after the calculations I have adduced, it cannot be pretended that Cæsarean section, the *alternative* in these cases, offers such a chance to the mother and child as would justify our preferring it." 20.

We agree with the author, that the objection offered to this suggestion, that it would be "opening a wide door to the abuse of this operation," is futile; the fear of the operation being perverted to improper cases or for improper purposes, must not deter us from having recourse to it in others, in which its use is clearly justifiable. Moreover, no medical man should, *under any circumstances whatever*, perform it without consulting a brother practitioner. The induction of premature labour has been recommended in various of the diseases of pregnancy, when these have arrived at the point of threatening the patient's life, such as vomiting, convulsions, hæmorrhages, &c.

Five different methods of effecting this operation have been recommended, viz.—1. Abdominal friction, warm baths, &c.; these are rarely of any utility. 2. The separation of the membranes for two or three inches around the os uteri; this plan, advocated by Hamilton and Conquest, is supposed by them and others to be safer for the infant, than when the membranes are punctured. 3. The puncturing the membranes is a more certain mode of proceeding than the former; it was employed by Dr. F. Ramsbotham in 36 cases, and of these 21 children were born alive. 4. The dilatation of the os uteri by means of a piece of sponge placed within it, and maintained there by a plug in the vagina. This plan, proposed by Brünnighausen and Klugè, is much approved of by Velpeau, although not deemed more certain by some authors than rupturing the membranes. 5. Ergot of rye has been of late extensively employed, but more children have been lost when it has been had recourse to, than when the other means have been employed.

Although instances are on record of children proving viable prior to the 7th month, yet that is the earliest period we must calculate upon in practice; and, to insure the attainment of this period, the author recommends we should, in estimating the probable age of the fœtus, "allow an additional fortnight, to rectify any error in the calculation of the period of pregnancy." A nurse with small nipples should be at hand to furnish nourishment to the child.

According to Dr. Merriman's statement, preternatural presentations occur as often as 17 times in 78 cases of premature labour: he suggests, that, supposing such should be detected, it would be better to wait a few days in the hopes of a spontaneous rectification taking place. But the author agrees with the objections of Hamilton and Dewees to this practice, grounded upon the great difficulty of ascertaining with certainty, at this early period of pregnancy, what part really presents, upon the greater ease with which the child is turned in the inverse proportion to its weight, and upon the great doubt which must exist as to the spontaneous alteration of the position of the child in a few days.

The next six essays, although they comprise the greater portion of the book, will not occupy us long. The author in these, has given a very good historical account of the various operations in midwifery, but has

added little of personal or practical remarks that we can present to the reader.

II. VERSION OR TURNING.

"Thus we see that the records of English practice yield 39,539 cases, and 147 cases of version—or about 1 in 269; French practice, 37,479 cases, and 400 cases of version—or about 1 in 93½; and German practice, 21,516 cases, and 337 cases of version—or 1 in 63½. The whole number of cases is 98,534, and of version, 884—or about 1 in 111½. It is not easy to make out a satisfactory table, shewing the dangers of the operation to the mother and child, from the want of details. Many writers do not mention whether any of the mothers died, and some omit the result as regards the child. I cannot forbear expressing my estimation of the minuteness and accuracy of Dr. Collins's statements, and the excellence of the tabular views he has given. In the following table (we have not space for it) I have taken all the numbers upon which I could depend, and though the list is not extensive, I believe that the average mortality will be found pretty correct. Thus, in 169 cases, 11 mothers died, or 1 in 15. I do not give this result as the exact mortality of the operation, because it is evident that the deaths in some cases may have been owing to the cause which demanded the operation—as in placenta prævia; but as we find that even in several of these cases, the fatal termination was evidently more owing to the operation than to the hæmorrhage, I am inclined to think the calculation not very far from the truth. However, any erroneous inference from these statistics, will be guarded against by the recollection of the various and serious accidents which require the operation.

In 542 cases, where the result to the child is detailed, 182 children were lost, or rather less than 1 in 3. To a certain extent the same observations apply to this calculation of the mortality amongst the infants, and similar allowance must be made. One in four is stated as the mortality in footling cases, which must evidently be below the proper estimate of version cases." 52.

The objects of version or turning, are either "to place the head in a more favourable relation to the pelvis, or to substitute the head for some other presentation" (cephalic version): or, "to substitute the inferior extremities for some other less favourable presentation" (podalic version). As to *cephalic version*, much difference of opinion exists as to the eligibility and practicability of its performance. The rectification of malposition of the head by means of the fingers is well known to be often practicable at an early stage of labour; but the substitution of the head for other presenting parts is a matter of far greater difficulty. Velpeau, however, describes it as very possible; and Dr. Churchill says, that the cases in which it can be employed may be divided into two classes.

"First—where the pelvis is of sufficient size, and nothing but the *malposition* of the child's head calls for interference;—2nd, in certain *malpresentations*, such as the neck or shoulder, and perhaps in a few arm cases, if the uterus be not strongly contracted, and especially if the waters have not escaped. It is evidently not calculated for any case where prompt delivery is necessary." 56.

After describing the ordinary mode of rectifying the position of the head, the author thus continues.

"Wigand has stated that it is possible, before the waters have escaped, to change the position of the head, or even the presentation, by external abdominal manipulations. Velpeau confirms this from his own experience, and something similar is stated by Sennert and Martins. Riecke has also related several such

cases. Dr. Burns in a note to his 9th edition, states, that 'Mr. Buchanan, of Hull, informs me that he succeeded in one instance lately, where the left side of the breast of the *fœtus* lay diagonally over the pelvis, with the head forward, in bringing the head right, by making the patient kneel and raise the breech, whilst the shoulders were brought as low as possible. The water had not been discharged. The situation of the head, when it came down, was made more favourable by the finger. The child was alive.' " 63.

In regard to the operation of turning, properly so called, the author contributes no additional information, his account being avowedly compiled from the various standard works on the subject. He makes no allusion whatever, to the interesting subject of the spontaneous evolution of the *fœtus* in transverse presentations.

III. INSTRUMENTAL LABOUR.

Two classes of cases may require the aid of instruments, namely, the one arising from a deficiency of room in the pelvic cavity, or the too great size of the *fœtal* head ; and the other from defective uterine energy. The first class of cases, although presenting, frequently, difficulties in the decision of the course to be adopted regarding them, are more easily determined upon than the latter.

" But if we turn to the class of cases where the abnormal deviation from natural labour is caused by the inefficiency of the uterine efforts, we shall find the difficulty much greater. We have no standard for ascertaining the adequacy of the pains, nor for deciding upon the necessity of interference, except that which long experience gives to individuals. Besides, the question is not merely whether the unaided efforts of nature may not, after an indefinite length of time, accomplish the delivery ; but whether the process will be completed before the constitution of the patient shall have suffered more than the ordinary shock. A patient may be delivered naturally, and yet die of the labour. In some cases there can be no doubt ; the deficiency of uterine power, or the existence of constitutional disturbance is so marked, that prompt assistance of some kind is imperatively demanded. But in another class, these indications are less plainly marked ; the pains cannot be said to be altogether inefficient ; they might even complete the labour, if sufficient time could be allowed ; but the patient is beginning to suffer, constitutionally or locally, from the prolongation of labour ; and there are evidences that more danger may result from delay than from interference. Now, in these cases, where the power is inefficient, or altogether deficient, we have good ground for interference, provided we possess instruments which neither injure mother nor child, and which, from their mechanical arrangements, are calculated to assist feeble pains, or to supply their absence. For those cases where the deviation is dependent upon physical disproportion, it may be necessary that one life should be sacrificed to secure the other ; and all that can be required is, that the instruments used be accurately adapted to secure the latter, as well as to effect the former.

Thus, whether we examine the cases we meet with, and decide upon the instruments required ; or whether we classify the instruments we possess, we shall find them naturally divided into—1st. Those which are not intended to injure either mother or child, as the *vectis* and *forceps* ; and 2nd. Those which are employed in the destruction and extraction of the child, but which are not intended to injure the mother, as the *perforator* and *crotchet*." 73.

IV. THE LEVER OR VECTIS.

A meddlesome midwifery is a bad midwifery, says an eccentric but most able author, and the indiscriminate use of the lever by many practitioners justifies his remark. This instrument is most unfortunately named, for, as every lever must have its fulcrum, so do the pelvic bones present one, but too convenient for the hasty or ignorant operator. Our author thus describes the case he thinks best adapted for its employment.

"The case which appears to me most suitable for the use of this instrument, and in which the probability of success is greatest, is that which I have sketched at the commencement of this essay, when the head having descended into the pelvic cavity, is arrested in its progress, not by any mechanical impediment, but by the inefficiency (not absence) of labour pains, and when the patient is beginning to show symptoms of constitutional or local disturbance. This condition does not take place until the second stage of labour has lasted some time, and as, after these symptoms have shown themselves, there is danger to the patient in further delay, it is important to obtain aid. . . . Now as there is supposed to be space enough, and pains though feeble, a slight additional force will often succeed in bringing the infant into the world at once. As there is nothing in the nature of the operation to add to the danger (?), and especially as the tractive force will probably be sufficient, it seems peculiarly suitable to this case; and I may add, that all the testimony I can collect is in favour of its application." 97.

The lever may be used sometimes in rectifying the position of the head, and in expediting the labour in convulsions, &c.; but it is inadmissible in cases of impaction. As to whether preference is to be given to the lever or forceps, Dr. Churchill thus expresses himself:—

"Each writer has taken up this subject too much as a partisan. To compare their utility in certain cases, is little more than a waste of words; as, for example, where the pains have ceased, or where compression is required to extricate the head of the child. In such cases, the vectis is of no use, and it would be highly reprehensible to employ it. But, where there is room, and when the pains persist, there the vectis, being sufficiently powerful, has this signal advantage, that there is but one blade to be introduced, and but the thickness of that one blade added to the child's head. It is possible that the single blade may be able to act where the bulk of two would render extraction impossible. One point I must notice, which has been urged in favour of the vectis, viz., the *secrecy* with which it may be used. Now this I consider a decided disadvantage." 99.

V. THE FORCEPS.

Almost every accoucheur of celebrity has thought it necessary to modify the form of this instrument: the author figures more than eighty of these varieties—a tolerable good proof of the difficulty even able hands have experienced in its employment. "For myself," he says, "I prefer the long or short forceps with the single curve, with the blades and fenestra somewhat narrow, and approximating, so as to allow of a firm degree of pressure; with their edges smoothly levelled off; and the blades sufficiently strong to prevent their springing, but not so thick as to add unne-

cessarily to their bulk. The hand that is to use the instrument is, however, of more importance than the instrument itself, of which it may be observed with truth 'that which is best administered is best.'"

As to the average frequency with which this operation is had recourse to, Dr. Churchill presents three tables, giving the following conclusions:—

Among British practitioners, 120 forceps cases occurred in 42,196 cases of labour—or about 1 in 351½. Among the French, 277 in 44,736 labours—or 1 in 162. And among the Germans, 1702 in 261,224 labours—or about 1 in 153½. In all, 2099 forceps cases in 348,156 cases of labour—or about 1 in 165. As to the *results* of the operation, only an approximation can be arrived at, since in some of the reports referred to, these have not been stated; and in others it has not been distinguished how far these may have arisen from other causes than the operation. Out of 294 forceps cases in British practice, 14 mothers, or 1 in 21, were lost. Among the French and Germans, in 479 cases, 35 mothers, or about 1 in 13½, were lost. Of children, about 1 in 4½ died in Britain, and 1 in 5 on the Continent.

In our author's observations upon the advantages attendant upon this instrument, the cases in which it is applicable, and the mode of its application, we find no novelty, nor anything to extract; the following caution should be written in letters of gold:—"I must also premise, that in no case is the forceps (or indeed any instrument) to be applied, until we are perfectly satisfied that the obstacle cannot be overcome by the natural powers, with safety to mother and child."

VI. THE PERFORATOR AND CROTCHET.

The operation of craniotomy is of so revolting a character, that one cannot feel surprised at the prejudice against its performance which prevails in the minds of many. But it is the province of true humanity even to inflict a lesser evil for the prevention of a greater. The circumstances under which the operation is required and practicable are thus stated.

"The case presupposes, on the one hand, actual disproportion, sufficient to prohibit the passage of the foetal head, even when compressed; and, on the other, that the distortion is not so great as to prevent the extraction of the child when mutilated. Dr. Osborn states that, when the bones approach much nearer to each other than three inches, it is utterly impossible for a living child at full maturity by any means to pass. He fixes upon 2½ inches, as the diameter rendering craniotomy necessary. M. Alphonse Le Roi says that 3½, Dr. Aitkin 3, Dr. Joseph Clarke 3½, Dr. Burns 3½, Dr. Ritgen 2, and Dr. Busch 2½ to 3 inches, is the smallest antero-posterior diameter through which a living child can pass. As to the other limit of the operation, that is, the smallest diameter through which a child can be extracted after craniotomy, Baudelocque says that the crotchet is inadmissible when the diameter is only 1½ of an inch; Dr. Dewees when it is less than 2;—Dr. Hull and Dr. Burns believe that it may succeed when the diameter is 1½; MM. Gardien and Hamilton when it is 1½; and Dr. Davis when it is 1 inch." (Dr. Osborn considers 1½ in. space enough, provided time be given for the softening of the child's body by putrefaction, and the cranial bones are picked out.) 169.

Dr. Churchill presents tables of the average frequency of this operation, whence it would appear to have been performed in Britain 181 times in 41,434 cases of labour—or about 1 in 228; in France, 30 times in 36,169 cases—or 1 in 1205 $\frac{1}{2}$; in Germany, 132 times in 256,655 cases—or 1 in 1,944 $\frac{1}{4}$. In estimating these numbers, the reader must bear in mind, that the axiom among British practitioners, that the child's life is to be unhesitatingly sacrificed when the mother's safety demands it, is not so implicitly received on the Continent, and hence the Cæsarian operation is often resorted to there, when the crotchet would be employed by ourselves.

The mortality amounted to 52 in 251 cases—or 1 in 5.

"At first sight one would expect the mortality among the mothers to be less, after the use of the crotchet than the forceps; but the result of these investigations shows the reverse to be the case. The only explanation I can give is founded upon the natural unwillingness of every humane practitioner to destroy life—the consequence of which feeling, is the delay of the operation so long as there is a hope of evading it. This delay, however, is unfavourable to the mother, and when at length the operation is performed, although it may have been less severe than delivery by the forceps, yet her condition rendered her much more susceptible of injury from it." 173.

The cases in which this operation is allowable, consist of those instances of distortion or diminution of the pelvic cavity, through which an entire child could not pass, when the head of the child is hydrocephalic, and under a variety of circumstances in which delivery is urgently demanded, and is not practicable by means of the forceps. We think Dr. Churchill should have dwelt a little upon the signs of the death of the child, for, although in most cases in which the operation is to be undertaken, this must become only a secondary consideration, yet it is at least a satisfaction when the death can be reasonably supposed to have occurred.

We would suggest to the author, in the event of his work reaching another edition, that it would be exceedingly useful to present a digest of the facts upon record regarding the use of the *ergot of rye* in tedious parturition. Not only is the subject interesting and important in itself, but it is especially so in relation to instrumental labour, as there can be no doubt of the great diminution in the number of lever and forceps cases, since the introduction of that drug into midwifery practice; but, many practitioners are of opinion, that the number of still-born children is much greater, than when tedious cases are left entirely to nature; our own experience, as far as it goes, confirms this opinion; but, what may be the proportion of children born alive when the ergot is used, and when instruments are employed, we have no idea of, nor is a just one likely to be obtained, until midwifery statistics are more copious and more exact; this they might easily be rendered if every practitioner would be at the pains of noting down the leading facts of the cases which come under his care, and from time to time communicating them to the profession.

VII. THE CÆSARIAN SECTION.

This operation, never received with any favour in this country, has been

performed very frequently on the Continent. Of course there are cases in which, from the narrowness of the pelvis, even a mutilated child cannot be transmitted, but these are rare, and in most instances ought to have been anticipated by the induction of premature labour. Dr. Churchill has collected references to a large number of cases, and thus expresses himself :—

"These tables yield the following results: 1. Among British practitioners, in 40 cases, 11 mothers recovered and 29 died, or nearly three-fourths. 2. Out of 37 cases where the result to the child is mentioned, 22 were saved and 15 lost, or 1 in 2½. 3. Among continental practitioners, out of 369* cases, 217 mothers recovered, and 152 died, or about 1 in 2½. 4. Out of 187 cases where the result to the child is given, 138 were saved and 49 lost, or nearly 1 in 4. 5. Taking the entire number, which amounts to 409, we find that 228 mothers were saved,† and 181 lost, or about 1 in 2½; and that out of 224 children, 160 were saved, and 64 lost, or about 1 in 3½. After a careful examination of the cases on record, I think we may fairly conclude, that as so many women have recovered from the operation, it does afford a chance to both mother and child, and that, therefore, we may be justified in having recourse to it; but that, as the danger is much greater than from any other operation, we should not be warranted in performing it, if there were a prospect of success by other means. This, then, constitutes the sole *advantage* of the operation, that in cases where we cannot deliver the patient by any other means, and when, consequently, both mother and child would inevitably die if left unaided, we may afford each a chance, by performing the *Cæsarian section*." 225.

VIII. SYMPHYSEOTOMY.

This operation originating in an erroneous idea that the symphysis pubis separates and thus enlarges the cavity of the pelvis, in difficult labour, after the sacrifice of several victims to hasty conclusions, has sank into that oblivion, which a due knowledge of the anatomy and physiology of the parts, might at once have consigned it to.

IX. THE FUNIS UMBILICALIS.

This is a very interesting chapter.

Growth, Length, &c. of the Funis.—Although Hunter and Burns mention the 6th week as the time within which the cord is discovered, yet, Velpeau and Breschet state, that if the ovum be perfect, a cord is discernible from the earliest period, and our author coincides with these latter authorities.

* In 28 of these the women underwent the operation more than once.

† "I do not mean that so many mothers were saved from death by the operation, but that they were saved from the effects of the operation. No doubt many were really saved from death, which could not have been otherwise avoided; but we have proof that many could have been delivered by other means, inasmuch as they afterwards bore children naturally."

"It is generally visible about the 15th day, when it rather exceeds the length of the fœtus. Up to the 3d week it is thin and cylindrical; from the 3rd to the 9th it increases in size, and we find two or three vesicular swellings with narrow intervals; the last swelling persisting the longest. It contains at this period the vitelline duct, with the omphalo-mesenteric vessels, a portion of the urachus, the fœtal intestines at its umbilical extremity, the blood-vessels, and some gelatine. About the end of the 2nd month the intestines are enclosed in the abdomen, and the vitelline duct and urachus are obliterated, so as scarcely to be detected afterwards." 262.

At the termination of pregnancy, the point of *origin* in the placenta is various. Osiander found out of 36 cases, in one only did the funis arise exactly from the *centre*, usually arising about two inches from the edge. This is contrary to our own observations made upon a considerable number of cases. The *length* of the cord is very variable; all lengths have been met with, from 2 inches, (Davis,) to 5 feet (Gardien). The author gives a table of 500 measurements which he has made in private and hospital practice. The conclusion from it is as follows.

"Thus we find that the most frequent length was 18 inches, the next 24, and the next to that 20 inches; so that we may agree with those authors who state the average length of the cord to be between 18 and 24 inches. Extremely short cords must be very rare, and scarcely to be calculated upon in practice—since out of 500 cases none were under 12 inches (6 were 12 inches). Only four were about 3 feet. I have no data by which to test the observation of Osiander, that male children have generally longer cords than females." 265.

After describing the structure of the cord, and detailing the evidence of its possession of nerves and lymphatics, the author alludes to various deviations from the normal conditions. When speaking of cases in which the funis and umbilicus are said to have been absent, he mentions the following deviation.

"A case of an acephalous fœtus recently occurred at the Western Lying-in Hospital, which had formed adhesions by the back of the neck to the placenta, from which the funis arose, and passing round the right side of the neck, was inserted into the depression between the face and neck, just about the spot where the angle of the jaw should have been, had there been no malformation. The vessels of the cord passed behind the clavicle and ribs, down into the chest and abdomen, and were there lost. There was a depression, or *cul de sac*, about the proper situation of the umbilicus. This is the most remarkable deviation from the usual course of the funis I have ever seen. Chaussier relates an instance where the placenta was attached to the liver, and another is on record in which it adhered to the abdomen." 273.

Knots of the Cord.—These are not unfrequently found, and may be single or double. Burns supposes that they may sometimes be formed during labour, but those to which allusion is now especially made, are probably formed during an early period of utero-gestation. Some authors consider them as very dangerous, or even fatal, but a contrary opinion held by others, is believed by Dr. Churchill to be the just one. As the cord has been sometimes knotted after death, in order to conceal infanticide, by presenting an apparent cause of death, it may become an important point to distinguish knots of the cord thus formed from those formed in utero.

"If the knot be moderately loose, and the vessels on either side varicose: if

the injection pass easily, and the cord curls when untied, and the inside of the circle be flattened, we may conclude that the knot is of old standing, and also that it could not have caused the death of the fetus. If, on the other hand, the knot be drawn very tight, so that the injection cannot pass; if there be no varicose state of the vessels; no flattening of the inner surface of the knot; and no curling round when untied, the evidence is in favor of the recent formation of the knot, either during the delivery, or subsequently, and more or less against the supposition of its having caused death." 278.

Coiling of the Funis round the Child's Neck.—"The funis may be coiled round the child's neck, extremities, or body, in consequence of its excessive length, (the author never met with it in funes of less than 18 inches, usually 24,) and the movements of the fetus in utero. If the length of the cord be very great, several coils may be formed. I have quoted from M. Heritier, a case where it was five times round the neck. An artificial coil may be formed during the expulsion of the child, or in turning. As to the frequency of this occurrence, Richter of Moscow met 27 examples out of 624 cases; Siebold, at the Berlin Clinique, 21 out of 137 cases; and Kluge 63 out of 268. Dr. Ashwell mentions 30 cases of coiling in 649 cases. I give these on the authority of M. Velpeau, as I have not the documents to refer to. Out of 242 cases, of which notes were taken under my own superintendence, it occurred 63 times. Thus, in 1920 cases, there were 204 examples of coiling, or rather more than 1 in 9." 276.

Position of the Umbilicus.—This has been observed with minuteness in reference to legal medicine. The insertion of the funis, which is near the pubis at the early period of foetal life, is said to be, by Chaussier, Montgomery, and others, in the centre of the body at birth in a full-timed fetus. M. Moreau having examined 500 children at the Maternité in reference to this point, has, however, found the insertion only central in 4 cases. On an average it was found to be 8 or 10 lines below this point, while in a few instances of premature children the cord was inserted in the centre.

The cord has been supposed frequently to exert a considerable influence on *parturition*. Thus labour has been said to have been impeded by a too *short* cord. This has been supposed to be a cause of retraction of the head, of reversion of the uterus, and of rupture of the cord. The author thinks that the statistics of midwifery amply prove the truth of Naegele's remark, "that the cord is rarely, if ever, so short as to hinder labour, or to entail any serious consequences." So, too, the shortening of the funis produced by its coiling around the infant has probably little or no influence upon the labour. The funis may be *prolapsed* either at the beginning or during labour. In 92,017 deliveries this occurred 333 times, or 1 in every 276½. Many circumstances have been supposed influential in producing this occurrence; such as a small child and abundant liquor amnii, a long funis, and according to Naegele, irregular shape, or irregular action of the uterus. "I may add, from my own observation, that I have found, in several cases of prolapse, that the *placenta* was situated *low down*, near the cervix uteri, and in some few others, that the *funis* was inserted into the *lower edge* of the placenta." In the *treatment* of this deviation, no general rule prevails; some practitioners endeavour, but with indifferent success, to return the cord, and retain it free from pressure by some mechanical contrivance; others have thought it better to expedite the labour by means

of turning, or the forceps. "No matter what means are adopted, the mortality, especially in hospital practice,* will be very considerable: thus, out of 249 of the cases I have referred to, 155 were lost and 94 saved.

Ligature after Birth.—It would be thought a great omission in this country to neglect the due application of the ligature, and, where this has been done carelessly, fatal hæmorrhage has often resulted. Nevertheless, several physicians object to it as unnecessary, and as likely to cause congestion. The author has seen infants, in M. Capuron's wards, in whom no ligatures were applied. Doubtless, in a state of nature, when the cord is probably torn rather than cut, fatal hæmorrhage would be rare, as it is in those cases of ruptured funis which are sometimes met with in sudden deliveries; but when the cord has been cut, there must always be great risk of subsequent hæmorrhage, although this may not be manifest at the time of the incision. As to the second ligature, the author says—

"It is customary in these countries to tie the cord a second time nearer the placenta, with a view to prevent hæmorrhage, in case there should be a second child, and a vascular communication between the placenta. It is a matter of precaution, not of necessity. It is said by some French authors, that allowing the cord to bleed, facilitates the expulsion of the placenta. I am not prepared to speak decidedly upon this point, but I know that it weakens the cord, and unfits it for much traction." 292.

Decadence of the Cord.†—Of the period when this occurs Dr. Churchill has kept an account in 200 cases.

"In 1 case it fell on the 2nd day—in 4 on the 3d—in 20 on the 4th—in 52 on the 5th—in 81 on the 6th—in 24 on the 7th—in 10 on the 8th—in 7 on the 9th—in 1 on the 10th. Thus the 5th and 6th days are the ordinary periods of its detachment. My friend, Dr. Montgomery, informs me he has had one persistent until the 15th day, and Dr. Breen has seen one at the 13th day." 294.

X. REPORT OF THE WESTERN LYING-IN HOSPITAL.

This is a statistical account of the cases which have occurred in this Institution during five years: such reports are very useful, and it is to be regretted that any individual, having it in his power to produce similar ones, should neglect doing so. A brief abstract may prove interesting.

During the five years 1705 females were delivered; 65 of these were abortions, and 1640 children at the full time. The number of children amounted to 1667, including 25 cases of twins and one of triplets: 123 were still-born or died soon after birth, of whom 18 were premature and 6 putrid. In 1525 cases the presentation was as follows:—in 1435 the head presented; 16 head and hand (1 died); 35 breech (14 died); 22 foot

* Many cases do not seek admission into the hospitals until a chance of safe delivery is diminished, or even until the cord has ceased to pulsate. Twenty-two such cases occurred out of the 73 unfavourable cases recorded by Collins.

† For an account of Billard's interesting observations upon this subject see *Medico-Chir. Rev.* Vol. 32. p. 382, April 1840.

(10 died); 9 arm (5 died); 7 funis (5 died); 1 placenta (died). *Flooding* occurred *before* labour in 4 cases;—3 were cases of accidental, and one of unavoidable hæmorrhage. *Flooding* occurred *after* labour in 21 cases; no patient being lost from this cause. *Convulsions* occurred in 3 cases; 2 recovered:—13 patients were attacked by *puerperal fever*; of whom 4 died. *Turning* was required in 11 cases, or 1 in 149: three of the children and all the mothers were saved. The *forceps* was employed in 3 cases, or 1 in 547; one child was putrid, the others were saved, as were all the mothers. *Craniotomy* was performed in 12 cases (1 in 136); one woman died, but she was not seen until her case was hopeless. Of the entire number (1705), 10 women died, or 1 in 170—of these, 1 died from prolonged second stage (owing to neglect) giving rise to fever; 1 from pulmonary disease, combined with the shock of an operation; 2 from mismanagement of attendants after delivery; 4 from puerperal fever; 1 from apoplectic convulsions; 1 from cause unrecorded.

This volume, like its predecessors, presents an interesting resumé of what is known on the subjects upon which it treats; and, with even less pretensions to originality than the former volumes, exhibits the meaning of the various authors quoted faithfully, and often in the very words employed by them. The chronological list of British and Continental works of *Midwifery* will be found useful to the student; but we think the Plates of the various instruments employed in obstetrical surgery, many of which are now obsolete, might have been omitted, tending, as they do, to encrease the price of the book without corresponding advantage. We strongly recommend the work to our professional brethren.

THE PHILOSOPHY OF MYSTERY. By *Walter Cooper Dendy*,
Senior Surgeon of the Royal Infirmary for Children, &c. &c.
Octavo, pp. 434. Longman & Co. April 1841.

WE will venture to aver that so curious and amusing a book has never issued from the *medical* press of this or any other country. It reminds us in every page of the erudite Burton, whose "*ANATOMY OF MELANCHOLY*" is so well calculated to drive away the vapours from the most confirmed hypochondriac. The research displayed in this volume is so varied and extensive, that we are absolutely astonished how a young medical man in full practice could have spared time from his professional studies and labours for the construction of a work exploring almost every labyrinth in the boundless fields of metaphysics, besides the dark paths of psychology, physiology, ideology, from the mysterious creation of man himself, down to the mummeries of *MÆSMERISM* and the "*OCCULT SCIENCES*." We do not maintain that Mr. Dendy has unravelled all the mysteries which he has discussed; but, by throwing the dialogue into the mouths of four personages (Castally, Evelyn, Ida, and Astrophel)—two females and two males—one of them a learned student in black-letter folios, he has contrived to mingle interrogatory, opposition, scepticism, superstition, and ingenious explanation, in a spirited and amusing conversation, into which is infused

a prodigious mass of the curiosities of mystery collected, one would suppose, from every work and page in the library of the British Museum! Such a work as much defies analysis as the "Anatomy of Melancholy" itself, or the large edition of Johnson's Dictionary, with its endless quotations from all the English authors that ever wielded a pen. It is pretty evident that, under the name and character of Evelyn, the author personifies himself, and enunciates his own opinions. But still it is impossible to cut out and isolate this interlocutor, without destroying the whole spirit of the dialogue. The work must be perused—and it will be extensively read both within and beyond the pale of the profession—before any conception can be formed of its nature, contents, or execution. All we can do is, to introduce a short dialogue, taken almost at random, as a mere specimen of the manner in which Mr. Dendy handles his subjects.

"ASTROPHEL. Then there is some truth in the whimsical localities in the 'Anatomy of Melancholy,' and the pictures of the tenants and apartments of the brain in the ingenious romance of the 'Purple Island' of Fletcher.

EVELYN. Although I grant that these eccentric writers evince much reading, I am not sure that their impersonations (like the 'Polyolbion' of Drayton,) do not tend to confuse, rather than elucidate, a natural subject.

Of a plurality of organs in the brain, I have been convinced, even from my own knowledge and dissections. I have seen that very considerable portions of the *cerebrum* may be removed, the individual still existing. The *vital* functions may continue, the *animal* functions are deranged or lost. The most extensive injuries of the brain, too, are often discovered, which were not even suspected; and the converse of this is often observed,—the diseases of the brain being commonly found in an *inverse ratio* to the severity of the symptoms. When *chronic* tumours and *cysts* of water are *gradually* formed, the extreme danger is averted by the balancing power of the circulation of the brain's blood; without which its incompressibility would subject it to constant injury.

In *tubercles* of the brain, it is curious that *memory* is the faculty chiefly influenced; it is sometimes rendered dull, while the fancy is vivid,—often more perfect and retentive.

Brain, however, can no more be considered as mind itself, than *retina* sight, or than the sealing-wax can be identical with the electricity residing in it. For if we look at the brain of a brute, we see how closely it resembles our own; then, if we reflect on human intellect and brute instinct, we must all believe at once that there is some diviner thing breathed into us than the *anima brutorum* of Aristotle, something more than the mere vitality,—

'Spiritus intus alit, totamque infusa per artus
Mens agitat molem.'

Brain is therefore the *habitat* of mind, the workings of which cannot be indicated without it; for, as the material world would be intact without a sense, so there can be no moral evidence of mind without a brain, which is indeed the sense of the spirit. Thus, without adopting the creed of the *Hyloist*, the *moderate* materialist,—that the mind cannot have, during the life of the body, even a momentary existence independent of matter,—I believe, that when this matter is in a state of repose, mind is perfectly passive to *our cognizance*.

IDA. It is with diffidence, Evelyn, that I enter this arena with a physician, learned in the body; but is there no danger in this doctrine? does it not imply the office of a *gland*,—that brain is the *origin* of soul, and that its function was the *secretion of thought*.

Ev. Such is the timid error of the mere metaphysician, Ida. There is no such danger; for, remember, if there be secretion, it is the *soul* which directs. Many

a thought is referred to things which we cannot bring into contact with our consciousness,—*except by the brain.*

Dr. Gall writes of a gentleman, whose forehead was far more elevated on the right side than the left; and he deeply regretted that with this left side he could never think. And Spurzheim, of an Irish gentleman, who has the left side of the forehead the least developed by four lines,—he also could not think with that side, as indeed I have before hinted.

I may tell you the brain is *double*, and one healthy *hemisphere* is sufficient, as the organ of mind, if pain or encroachment of the opposite, when diseased, does not destroy life, and this especially when it is a *chronic* change, or exists from birth; so that I have often seen one hemisphere of the brain a pulpy bag of water, and yet vitality and many signs of intellect may still exist; nay, even if the whole brain be reduced to one *medullary* bag, animal life shall for some time be preserved.

To oppose this blending of mind and matter, Lord Brougham (in his *Natural Theology*) likens the marble statue hewn into beauty, to the perfect arrangement of organization in a being. While I admire the idea, I may observe that he forgets this truth,—that the maker of the one was a mere *statuary*, without even the fabulous power of Prometheus, or Pygmalion, or Frankenstein; the other, the *Creator* of all things, who *breathed a breath of life into the shape he had made fitted to receive it.* My lord thus halts at the threshold of discovery: mind is not the *product* of organization, but it works *by* and *through* it; and therefore, for its *earthly* uses, cannot be independent of the qualities of matter. We may as well agree with Plato, in endowing the soul with 'a plastic power, to fashion a body for itself, to enter a shape and make it a body living.' I remember Plutarch (in his *Quæst. Platon.*) makes him say, that the soul is older than the body, and the source of its existence, and that the intellect is in this soul. But where is the sacred evidence of this? for, even in our *antenatal* state, we live, and yet there is probably no consciousness; there is vitality, at least, without the *consciousness* of an intellect.

ASTR. As the creation of light was *before* that of the sun, its reservoir, so the creation of the soul might be before the brain, in which the Creator *subsequently* placed it.

EV. For this there is sacred evidence, Astrophel. There *was* light, ere the sun was created as its reservoir; but the soul was breathed into the body, which was already then created.

ASTR. This is a specimen of your special pleading, Evelyn, allied to that perilous error of Priestley, that supposed function and structure to be identical, because they are influenced by the same disease, and seem to live and die, flourish and decay, *together.* Democritus also has written his belief that, 'as the smell of a rose exists in the bloom, and fades as that dies, so the soul of an animal is born with its birth, and dies with its death.' You have conceded to me (and we must all be conscious of) the great difficulty of conceiving the *nature of spirit*; but, if we are required to prove its existence, we may answer, by analogy, that we cannot always palpably prove the existence of *matter*, although we *know it* to exist. The *electric fluid* may remain for an indefinite period invisible, nay, may never meet the sight,—it may even traverse a space without any evidence but that of its wonderful influence, and at length be collected in a jar.

As light, existing in remote stars, has not yet reached our earth, so the electricity is now residing in myriads of bodies, which will never be elicited; and thus (if I may extend the simile) the principle of life, whatever it be, may have an independent existence during life, may leave the body and yet not perish. Is not this a fine illustration of the living of the soul without the body; for here even a grosser matter, yet invisible, is evinced by its passage from one thing to another, although it is *inert* when involved in the substance?

IDA. May I not fear that the errors of philosophy, grounded on the difficulty

of conceiving the nature of a self-existent spirit, will not stop until they lapse into the belief of annihilation?

For there are many suspicious sentiments even in the pages of well-meaning writers; such are the dangerous sentiments which Boswell has ascribed to Miss Seward:—"There is one mode of the fear of death which is certainly absurd, and that is the dread of annihilation, which is only a pleasing sleep without a dream."

There may be nothing terrible in the condition of annihilation, yet the moral effect is deplorable; indeed, to doubt the eternal existence is to argue that man's life is but a plaything of the Deity. The notion of annihilation is so abhorrent, that he who believes it dooms himself indeed to a miserable existence; for the crowning solace of a Christian life is holy hope, and belief in the priceless gift of immortality." 186.

High as was our opinion of Mr. Dendy's talents and acquirements, we had no idea of the *extent* of his erudition and researches, till the present work came under our observation. It will assuredly stamp him as one of the most literary characters in the profession at the present time. Although the author, like every man of genius, may have sometimes permitted his imagination to take wide flights, yet the opinions and explanations that flow from Evelyn in this work, are, for the most part, orthodox and scientific.

I.—MORAL PHILOSOPHY; OR THE DUTIES OF MAN CONSIDERED IN HIS INDIVIDUAL, DOMESTIC, AND SOCIAL RELATIONS. By *George Combe*. 8vo. Edinburgh and London, 1840, p. xvi. 440.

II.—NOTES ON THE UNITED STATES OF NORTH AMERICA, DURING A PHRENOLOGICAL VISIT, IN 1838-9-40. By *George Combe*. Three volumes, 8vo. Edinburgh and London, 1841, p. xxiv., 1260. With a Map and Illustrative Diagrams.

ALTHOUGH, on a cursory view, these works of Mr. Combe's may appear little calculated to embrace questions essentially, or even relatively, connected with the principles of medical philosophy; nevertheless, if candidly and considerately examined, his volumes will be found so full of natural and scientific truth, that the most experienced physician may derive from them a valuable and varied supply of excellent practical information. We say this much in their favour, without partiality or exaggeration; and, as a means of inducing others to follow our example, in studying his doctrines with an honest and independent spirit, we proceed to analyze such portions of our author's pages as seem best adapted to engage attention, in a medico-chirurgical journal.

I. THE MORAL PHILOSOPHY.

Mr. Combe originally propounded his system of moral science in twenty lectures, delivered during the Winter sessions of 1835-6, to large classes

of auditors by whom his instructions were received with an unusual degree of attention. While the course was in progress, they were successively reported, in the *Edinburgh Chronicle*, and thus an increasing interest was attracted to them, through the influence of this respectable journal. Soon afterwards, they were published in America, in the form of a convenient volume, and the whole impression was speedily exhausted in that country. During his recent sojourn there, the author republished his complete course, with suitable additions and corrections, and, since his return to Scotland in the early part of last year, he has subjected his entire doctrine to a particular and careful revision. It is, therefore, as an improved and matured edition, that his lectures on moral philosophy are now submitted to the public consideration and judgment.

Mr. Combe founds his moral philosophy on the phrenological principles—a circumstance which, he thinks, may appear to those who have not ascertained the truth and value of the latter science, to be nothing better than putting forth mere conjectures as the grounds of human duty; but, in harmony with the judgment of intuitive justice, he declares that the fact of many such persons withholding their assent to phrenology and its principles, does not necessarily render it an imaginary or hypothetical science; the denial of the circulation of the blood, by Harvey's contemporaries, did not arrest the action of the heart, arteries, and veins; scientific truths exist independently of human observation and opinion. "As in general physiology and other sciences," he observes, "there are points in phrenology still unascertained, and these may hereafter prove to be important; but the future discovery of the functions of the spleen, will never overturn the ascertained functions of the lungs or spinal marrow; and, in like manner, the ascertainment of the uses of certain unknown parts at the base of the brain, will not alter the ascertained functions of the anterior lobe and coronal region. I consider the phrenological principles, on which I have founded the following lectures, to be established by such an extensive induction of facts, that they will sustain the severest scrutiny and not be found wanting; and I shall, with becoming resignation, abide by the verdict of those, who, by study and observation, shall have rendered themselves competent to judge of their merits."

On the present occasion, we select Mr. C.'s fourth lecture for exposition, as being most appropriate to our purpose of enlarging the sphere of prophylactic experience. It is intitled the "*Preservation of Bodily and Mental Health, a moral duty*." In the first instance, however, as this author makes frequent allusion to the "physical and organic laws," and as it may be the reader's wish to know the precise meaning he attaches to these expressive terms, we introduce an explanation of their import according to the lecturer's usage. This definition of the acceptation in which he employs them, occurs in another philosophical work* of his, as in the following extract:—

"If the reader keep in view, that God is the creator; that Nature, in the general sense, means the world which He has made;—and, in a more limited

* *The Constitution of Man*, considered in relation to external objects; 8vo. London, 1835, p. 27, the third edition, revised, corrected, and enlarged.

sense, the particular constitution which he has bestowed on any special object, of which we may be treating; and that a law of Nature means, the established mode in which the actions and phenomena of any creature or object exhibit themselves, and the obligation thereby imposed on intelligent beings to attend to it,—he will be in no danger of misunderstanding my meaning. Every natural object, then, has received a definite constitution, in virtue of which it acts in a particular way. There must, therefore, be as many natural laws, as there are distinct modes of action of substances and beings, viewed by themselves. But substances and beings stand in certain relations to each other, and modify each other's action in an established and definite manner, according to that relationship; altitude, for instance, modifies the effect of heat upon water. There must, therefore, be also as many laws of nature, as there are *relations* between different substances and beings. It is impossible, in the present state of knowledge, to elucidate all these laws—numberless years may elapse before they shall be discovered; but we may investigate some of the most familiar and striking of them. Those that most readily present themselves bear reference to the great classes into which the objects around us may be divided, namely physical, organic, and intelligent.

1st. The *physical* laws embrace all the phenomena of mere matter: a heavy body, for instance, when unsupported, falls to the ground with a certain accelerating force, in proportion to the distance which it falls; and its own density; and this motion is said to take place according to the law of gravitation. An acid applied to a vegetable blue colour, converts it into red, and this is said to take place according to a chemical law.

2ndly. *Organised* substances and beings stand higher in the scale of creation, and have properties peculiar to themselves. They act, and are acted upon, in conformity with their constitution, and are therefore said to be subject to a peculiar set of laws, termed the *organic*. The distinguishing characteristic of this class of objects is, that the individuals of them derive their existence from other organized beings, are nourished by food, and go through a regular process of growth and decay. Vegetables and animals are the two great sub-divisions of it. The organic laws are different from the merely physical: a stone, for example, does not spring from a parent stone; it does not take food; it does not increase in vigour for a time, and then decay and suffer dissolution; all which processes characterize vegetables and animals. The organic laws are superior to the merely physical. A living man, or animal, may be placed in an oven, along with the carcass of a dead animal, and remain exposed to a heat which will completely bake the dead flesh, and yet come out alive, and not seriously injured. The dead flesh is mere physical matter, and its decomposition by the heat instantly commences; but the living animal is able, by its organic qualities, to counteract and resist, to a certain extent, that influence. The organic laws, therefore, mean the established modes according to which all phenomena connected with the production, health, growth, decay, and death, of vegetables and animals, take place. In the case of each animal or vegetable of the same kind, their action is always the same, in the same circumstances. Animals are the chief objects of my present observations.

3rdly. Intelligent beings stand yet higher in the scale than merely organised matter, and embrace all animals that have distinct consciousness, from the lowest of the inferior creatures up to man. The two great divisions of this class are *intelligent and animal*—and *intelligent and moral* creatures. The dog, horse, and elephant, for instance, belong to the former class, because they possess some degree of intelligence, and certain animal propensities, but no moral feelings; man belongs to the second, because he possesses all the three. These various faculties have received a definite constitution, and stand in determinate relationship to external objects: for example, a healthy palate cannot feel wormwood sweet, nor sugar bitter; a healthy eye cannot see a rod partly plunged in water straight—because the water so modifies the rays of light, as to give to the stick

the appearance of being crooked; a healthy sentiment of benevolence cannot feel gratified with murder, nor a healthy conscientiousness with fraud. As, therefore, the mental faculties have received a precise constitution, have been placed in fixed and definite relations to external objects, and act regularly;—we speak of their acting according to rules or laws, and call these the moral and intellectual laws.”

With these important distinctions held in view, let us now attend to Mr. Combe's philosophy in establishing the doctrine, that *prophylaxy*, or the preservation of bodily and mental health, is a moral duty. At the outset then, we find him stating didactically, that the causes of bad health result from infringement of the *organic* laws. We are instructed by universal experience—that, without health, man is unfit for the successful discharge of his duties: he is, therefore, under every obligation to apply his knowledge in preserving himself in a sound state both of body and mind. This is a self-evident maxim, and will not be gainsaid; but, while its truth is readily admitted, there are very many persons who remain grievously ignorant of the means how to carry it as a general injunction into effect. Let us see how the moralist exposes the “causes of bad health,” by a plain array of facts and arguments.

He remarks, at p. 75, that, in tracing to their source the calamities which arise to families and individuals from bad health and untimely death, attended by deep laceration of the feelings and by numerous privations, it is surprising how many of these calamities may be discovered to result from slight but long continued deviations from the dictates of the *organic* laws; so slight that at first scarcely any injurious or even disagreeable effect was observed, but which gradually augmented until the most ruinous consequences were produced. Perhaps, he says for an instance, the victim was an ardent student; and, under the impulse of a laudable ambition to excel in his profession, he studied with so much intensity, and for such long periods in succession, that he overtasked his brain and destroyed his bodily health. Equally ignorant of the *organic* laws with himself, his parents and relations were rejoicing in his diligence, and forming fond expectations of the brilliant future that must, in their estimation, await one so gifted in virtuous feelings, in intellect, and in industry; when suddenly he was seized with fever, with inflammation, or with consumption; and, in a short time, he was carried to the tomb. On this melancholy picture, Mr. Combe pathetically but justly observes—the heart bleeds at the sight, and the ways of Providence seem hard to be reconciled with our natural feelings and expectations: yet, when we trace the catastrophe backwards to its first causes, it is ascertained to have had no mysterious origin. The very habits which appeared so amiable to the spectators, and so well calculated to lead to such excellent attainments, were practically erroneous: and, indeed, there was not one link wanting to complete the connection between the fatal habits and the disastrous event which all so seriously lament. We press this picture on the gravest consideration of our readers, as available in their hands for the benefit of their youthful friends, of their own families, and perchance of themselves.

Another cause by which both health and life are frequently destroyed, is *occasional* reckless conduct, pursued in ignorance of the laws of the

human constitution. Mr. Combe exemplifies this cause in the two following cases, which we transcribe.

Case I.—"A young man in a public office, after many months of sedentary occupation, went to the country on a shooting expedition, where he exhausted himself by muscular exertion, of which his previous habits had rendered him little capable; he went to bed feverish, and perspired much during the night; next day he came to Edinburgh, unprotected by a great coat, on the outside of a very early coach; his skin was chilled, the perspiration was checked, the blood received an undue determination to the interior vital organs, disease was excited in the lungs, and within a few weeks he was consigned to the grave."

Case II.—This is an interesting illustration of our moralist's prophylactic principles: it is the case, communicated in his own words, of a medical gentleman—*Dr. Robert Macnish*—who is well known in the literary world by his "Anatomy of Drunkenness," and other instructive publications; and who, since this account was written, has fallen a victim to an attack of fever. Addressing Mr. Combe, he says, "On four several occasions, I have nearly lost my life from infringing the organic laws. When a lad of fifteen, I brought on a brain fever (from excessive study) which nearly killed me; at the age of nineteen I had an attack of peritonitis, (inflammation of the lining membrane of the abdomen), occasioned by violent efforts in wrestling and leaping; and while in France, nine years ago, I was laid up with pneumonia (inflammation of the lungs) brought on by dissecting in the great galleries of La Pitie with my coat and hat off in the month of December, the windows next to me being constantly open; and, in 1829, I had a dreadful fever, occasioned by walking home from a party, at which I had been dancing, in an exceedingly cold morning, without a cloak or great coat. I was for four months on my back, and did not recover perfectly for more than eighteen months. All these evils were of my own creating, and arose from a foolish violation of laws which every sensible man ought to observe and regulate himself by. Indeed I have always thought—and your book confirms me more fully in the sentiment—that, by proper attention, crime and disease, and misery of every sort, could, in a much greater measure than is generally believed, be banished from the earth, and that the true method of doing so is to instruct people in the laws which govern their own frame."

Another principle held by Mr. Combe in his prophylactic system is this—"the great requisite of health consists in the preservation of *all* the leading organs of the body in a condition of regular and *proportionate* activity; to allow none to become too languid, and none too active." In his estimation, the result of this harmonious activity is a pleasing consciousness of existence experienced when the mind is withdrawn from all exciting objects and turned inwardly on its own feelings. He gives a portraiture of the quiet, delightful enjoyment which accompanies health, in the words of a philosophical friend, whose description appears to be admirable. It was the remark of this sage, that he never considered himself in complete health, except when he was able to place his feet firmly on the turf, with his hands hanging carelessly by his sides and his eyes wandering over space; and, thus circumstanced, to feel such agreeable

sensations arising in his bodily frame, that he could raise his mind to Heaven and thank God that he was a living man.

We can hardly doubt of the Creator's having intended that the mere play of our bodily organs should yield us pleasure. It is probable too, that this is the chief gratification enjoyed by the inferior animals; and, although man has received the high gift of reason, it does not necessarily follow that he should be deprived of the delight which the organic nature is fairly calculated to afford. There is much instructive, though too often neglected, truth in the sentiments p. 78-9, which we record here with cheerfulness and approbation.

"How different is the enjoyment which I have described," Mr. C. remarks, "arising from the temperate, active, harmonious play of every bodily function, —from sensual pleasure, which results from the abuse of a few of our bodily appetites, and is followed by lasting pain; and yet so perverted are human notions, in consequence of ignorance and vicious habits, that thousands attach no idea to the phrase *bodily pleasure*, but sensual indulgence. The pleasurable feelings springing from health are delicate and refined; they are the reward and the support of virtue, and altogether incompatible with vicious gratification of the appetites. I am afraid that so widely do the habits of civilized life depart from the standard of nature, that this enjoyment is known in its full exquisiteness, to comparatively few. Too many of us, when we direct our attention to our bodily sensations, experience, instead of it, only feelings of discomfort, anxiety, and discontent, which make us fly to an external pursuit, that we may escape from ourselves. This undefined uneasiness is the result of slight but extensive derangement of the vital functions, and is the prelude of future disease. The causes of these uneasy feelings may be traced in our erroneous habits, occupations, and physical condition; and until society shall become so enlightened as to adopt extensive improvements in all these particulars, there is no prospect of their termination."

With regard to the advantages of cleanliness and exercise, as elements in his prophylactic discipline, our moralist adduces a variety of illustrations, which are not the less apt and applicable because they are homely. It is instructive, he observes, to compare with our own, the modes of life of the lower animals whose actions and habits are directly prompted and regulated by the Creator, by means of their instincts; because, in all circumstances in which our constitution closely resembles theirs, their conduct is really a lesson read to us by the All-Wise himself. In a state of nature, animals are remarkably cleanly in their habits: the feathered tribes dress their plumage, and wash themselves in the brooks: the domestic cat carefully preserves a clean, sleek, shining fur: the dog rolls himself on grass or straw: when grazing, the horse does the same: the sow is invariably clean, wherever it is possible for it to be so; its bad reputation arises from its master leaving it no sphere of existence except dunghills and other receptacles of filth. Again, in a state of nature, there has been imposed on the lower animals in acquiring their subsistence, a degree of labour which amounts to a regular exercise of their corporeal functions. At the same time, their food has been so adjusted to their constitutions, that they are well nourished, but very rarely rendered sick through surfeit or the bad quality of what they eat. *In a state of nature* then, the animals are impelled directly by the Creator to act in this manner; and, when we study their organization and see what is necessary to preserve it in

health and enjoyment, we cannot fail to admire the wisdom and benevolence displayed in their natural economy and constitution.

Following up his enlightened views with the object of making them conducive to the welfare of moral and intelligent beings, our experienced prophylactist proceeds to expatiate on the duty and comfort of cleanliness, in these expressive terms :—

“Man differs from the brutes in this—that instead of blind instincts, he is furnished with reason, which enables him to study himself, the external world, and their mutual relations; and to pursue the conduct which these point out as beneficial. It is by examining the structure, modes of action, and objects, of the various parts of his constitution, that man discovers what his duties of performance and abstinence in regard to health, really are. This proposition may be illustrated in the following manner. The skin has innumerable pores and serves as an outlet for the waste particles of the body. The quantity of noxious matter excreted through these pores in twenty-four hours is, on the very lowest estimate, about twenty-four ounces. If the passage of this matter be obstructed so that it is retained in the body, the quality of the blood is deteriorated by its presence, and the general health, which greatly depends on the state of the blood, suffers. The nature of perspired matter is such, that it is apt, in consequence of the evaporation of its watery portion, to be condensed and clog the pores of the skin; and hence the necessity for washing the surface frequently, so as to keep the pores open and allow the perspiration to be freely performed. The clothing, moreover, must be so porous and clean, as readily to absorb and allow a passage to the matter perspired, otherwise the same result ensues as from the impurity of the skin, namely, the obstruction of the process of perspiration. Nor is this all. The skin is an absorbing as well as an excreting organ, so that foreign substances in contact with it are sucked into its pores and introduced into the blood. When cleanliness is neglected, therefore, the evil consequence is two-fold; first, the pores, as we have seen, are clogged, and the perspiration obstructed; and, secondly, part of the noxious matter left on the skin or clothing, is absorbed into the system, where it produces hurtful effects. From such an exposition of the structure and functions of the skin, the necessity for cleanliness of person and clothing becomes abundantly evident; and the corresponding duty of cleanliness is more likely to be performed by those who know the preceding details, than by persons who are impelled to performance by bare injunctions. In some parts of the East, ablution of the body is justly regarded as a duty of religion; but it needs not to be told how extensively this duty is neglected in our own country. When men become enlightened, a warm bath, once a week at least, will be considered one of the necessities of life:—those who are in the habit of keeping their skin in a proper condition, by means of bathing and friction, will bear testimony to the increase of comfort and activity which is thus secured.”

Instead of entering into a description of the bones, muscles, blood-vessels, nerves and brain, and a demonstration that the necessity of bodily and mental labour, of temperance, of attention to ventilation, clothing and lodging, and of many other salutary observances, is written by the finger of God in the frame-work of our bodies, Mr. C. limits this part of his lecture to two observations. 1. Exercise of the bones and muscles is labour, as he justly remarks; and labour, instead of being a curse to man, is a positive source of his well-being and enjoyment. It is only excessive labour that is painful; and, in a rightly ordered community, he believes there would be no necessity for inordinate exertion. 2. Exercise of the brain is mental activity or labour, and this is intellectual, or moral, or animal, according to the faculties which are employed. Mental inactivity,

therefore, implies inactivity of the brain ; and, as the brain is the fountain of nervous energy to the whole system, the punishment of neglecting its exercise is great and severe—namely, feelings of lassitude, uneasiness, fear and anxiety, vague desires, sleepless nights, and a general consciousness of discomfort, with incapacity to escape from suffering ; all which poison life at its source, and render it thoroughly miserable. On the other hand, when combined, with due bodily exercise, well-regulated mental activity is rewarded with gay, joyous feelings, an inward alacrity to discharge all our duties, a good appetite, sound sleep, and a general sense of happiness that causes days and years to fleet away without leaving a trace of misery behind. It is equally indispensable to shun over-exertion, and undue or premature mental excitement ; but, owing to the constitution of society, it is difficult to avoid, in our habitual conduct, one or other of the extremes of indolence or excessive exertion. Many persons, born to wealth, have few motives to engage in active employments : and such individuals, particularly females, often suffer grievously in their health and happiness from want of rational pursuits, calculated to excite and exercise their bodies and minds. Others, again, who do not get riches by inheritance, are tempted to overwork themselves in acquiring wealth and independence. An expensive style of living is so general as to be felt by many to be unavoidable ; and, to support it, they labour so incessantly that almost no time remains for the cultivation of their moral and intellectual powers, and for that repose of mind and exercise of body which are indispensable to health. Hence arises indigestion and numerous cruel diseases ; and many persons, even after they have succeeded in obtaining wealth, are tormented with uncomfortable and discontented feelings. Mr. Combe strengthens the foregoing observations with an extract from Dr. Caldwell's excellent work on "Physical Education," which we transcribe as especially meriting the profound attention of medical philosophers.

This highly talented and zealous philanthropist* explains, in some forcible remarks, "the tendency of the embroilment of party politics and religious differences to over-excite the brain and produce insanity, and also dyspepsy, which is more allied to insanity than is commonly supposed. So true is this, that the one is not unfrequently converted into the other, and often alternates with it. The lunatic is usually a dyspeptic during his lucid intervals ; and complaints, which begin in some form of gastric derangement, turn, in many instances, to madness. Nor is this all. In families where mental derangement is hereditary, the members who escape that complaint are more than usually obnoxious to dyspepsia. It may be added, that dyspeptics and lunatics are relieved by the same modes of treatment, and that their maladies are induced, for the most part, by the same

* This eloquent and truly practical work was originally published at Boston in America, in 1834 ; and, with some additions by the author and editor, it was republished in Edinburgh with the title—*Thoughts on Physical Education, and the True Mode of Improving the Condition of Man ; and on the Study of the Greek and Latin Languages* ; by Charles Caldwell, M.D. Professor of the Institutes of Medicine and Clinical Practice in Transylvania University. With Notes by Robert Cox, and a Recommendatory Preface by George Combe ; 12mo. Edinburgh, and London, 1836.

causes. The passions of grief, jealousy, anger, and envy, impair the digestive powers; and dyspepsia is often cured by abandoning care and business, and giving rest to the brain. It is chiefly for this reason that a visit to a watering-place is so beneficial. The agitations of commercial speculations and too eager pursuit of wealth, have the same effect with party politics and religious controversy in over-exciting the brain; and hence, in all probability, the inordinate extent of insanity and indigestion in Britain, and still more in the United States.

Two objections are generally urged against these admirable prophylactic rules (we are not dealing with therapeutics at present)—these, in Mr. C's words, are obviously, the dictates of reason. The *first* is—that persons, who are always taking care of their health, generally ruin it; their heads are filled with hypochondriacal fancies and alarms, and they become habitual valetudinarians. Mr. C. replies to this objection, p. 84, with these indisputable observations:—

“All such persons are already valetudinarians before they begin to experience the anxiety about their health here described; they are already nervous or dyspeptic, the victims of a morbid uneasiness of mind, which, for want of other objects, is at last directed towards the state of their health. They are essentially in the right, however, as to the main cause of their distress, for their anxiety certainly does proceed from disorder of their organic functions. Their chief error lies in this, that their care of health proceeds from an anxiety without knowledge, and leads to no beneficial result. They take quack medicines, or follow some foolish observances, instead of subjecting themselves patiently and perseveringly to a regimen in diet, and a regular course of exercise, amusement, and relaxation,—the remedies dictated by the organic laws. This last procedure alone is what I call taking care of health; and I have never seen any human being become an invalid, or a hypochondriac, from adopting it. On the contrary I have known many individuals who, in consequence of this rational obedience to the organic laws, have ceased to suffer under the maladies which previously attacked them.”

The *second* objection is, that many persons live in sound health to a good old age; hence, it is the safest plan to follow their example, and act on all occasions as impulse prompts, never doubting that our health will take care of itself, if we follow this manly course. In reply to this too common misconception, Mr. C. observes, from manifest experience, that constitutions differ widely in the amount of their native energies, and consequently in the extent of wear and tear and bad treatment which they are able to sustain without being ruined; and that, for this reason, one individual may be comparatively little injured by a course of action which would prove fatal to another with a feebler frame.

Our moralist holds, for the grand principle of his philosophy—that the natural laws really admit of no exceptions,—and that specific causes, sufficient to account for the apparent exceptions, exist in every instance. In some of these supposed deviations from the rule, the individuals may have enjoyed a very robust constitution, which it was difficult to subvert: others may have indulged in excess only at intervals, passing an intermediate period in abstinence, and permitting the powers of nature to re-adjust themselves and recover their tone, before they committed a new debauch; others, again, may have led an extremely active life, passing much of their time in the open air—a mode of action which enables the constitution to

withstand a greater extent of intemperance than it can resist with sedentary employment. Now, of one and all of these persons, Mr. C. affirms without hesitation—that, if they had obeyed the organic laws, they would have lived still longer and more happily than they did by infringing them. In the course of his own observations, and ours is in entire accordance with them, he has never known an individual proceed perseveringly in a course of intemperance, either sensual or mental—that is, who habitually over-tasked his stomach or his brain—who did not permanently ruin his health, usefulness and enjoyment. It has long been our confirmed opinion, that most of the evils of life proceed from ignorance, improvidence and profligacy.

On this head, Mr. Combe's last observation is remarkable for its truth and impressive simplicity: we would therefore bring it prominently under the attention of our readers, particularly the least experienced.

“With regard to health,” he says, “Nature may be said to allow us to run an account-current with her, in which many small transgressions seem at the time to be followed by no penalty, when, in fact, they are all charged to the debit side of the account, and, after the lapse of years, are summed up and closed by a fearful balance against the transgressor. Do any of you know individuals, who, for twenty years, have persevered in frequent feasting, who all that time have been constant diners out or diners at home, or the soul of convivial meetings, prolonged into far advanced hours of the morning, and who have resisted every warning and admonition from friends, and proceeded in the confident belief that neither their health nor strength was impaired by such a course? Nature kept an account-current with such men. She had, at first, placed a strong constitution and vigorous health to their credit, and they had drawn on it day by day, believing that, because she did not instantly strike the balance against them and withdraw her blessing, she was keeping no note of their follies. But mark the close. At the end of twenty years, or less, you will find them dying of palsy, apoplexy, water in the chest, or some other disease clearly referable to their protracted intemperance; or, if they escape death, you will see them become walking shadows, the ghosts of their former selves—in short, the beacons set up by Nature to warn others that she does not in any instance permit her laws to be transgressed with impunity. If sedulous instruction in the laws of health, would not assist the reason and moral and religious feelings of such persons to curb their appetites, and avoid these consequences, they must be reckless indeed. At least, until this shall have been tried and failed, we should never despair, or consider their case and condition as beyond the reach of improvement.”

By the admission of our benevolent prophylactist, the dangers arising to health, from improper social habits and arrangements, cannot be altogether avoided by the exertions of individuals acting singly in their separate spheres. He remarks emphatically, that the great precept of Christianity—*WE MUST LOVE OUR NEIGHBOURS AS OURSELVES*—is inscribed in every line of our constitution; and, in consequence, we must render our neighbours as moral and intelligent as ourselves, before we can reap the full reward of our own knowledge and attainments. He enforces this principle by a practical illustration, and then proceeds to show the reasonableness and necessity of its application in active life. We must, therefore, he declares, produce a general conviction among the constituent members of society, that Providence forbids that course of incessant action which obstructs the path of moral and intellectual improvement, and leads to mental anxiety and corporeal suffering. We must farther induce them,

by a simultaneous movement, to apply an effectual remedy in a wiser and better distribution of the hours of labour, relaxation, and enjoyment. Every one of us can testify, he affirms, that this is *possible*, so far as the real, necessary, and advantageous business of the world is concerned; for, he continues, we perceive that, by a judicious arrangement of our time and our affairs, all *necessary business* may be compressed within many hours fewer than we now dedicate to that object, so as to allow us a reasonable space for mental cultivation, exercise and amusement. Mr. Combe considers eight hours a-day an ample allowance of time for business and labour: this would allow eight hours more for enjoyment, and eight for repose, a distribution that would cause life to flow more cheerfully, agreeably, and successfully, than it can do under our present system of ceaseless competition and toil. We fear, indeed we are certain, that this will be very unpalatable doctrine to our mammonian idolaters, who, unfortunately, are too numerous and too influential; the day will come, however, when our posterity must succeed in gaining this boon for themselves and their families; and, of this also we feel well assured, that the "labouring classes" will owe the advent of this millennium, in a chief degree, to the zeal and knowledge of medical philanthropists.

We should fail of doing justice to the excellent prophylactical philosophy, which we have endeavoured to place before our readers, in the preceding exposition, were we to omit the author's deductive summary of his doctrine. On p. 90-1, it is recorded as follows:—

"It appears then," he concludes, "that the foregoing considerations, that the study and observance of the laws of health is a *moral* duty; this conduct being clearly revealed by our very constitution as the will of God, and being, moreover, necessary to the due discharge of all our other duties. We rarely hear from divines an exposition of the duty of preserving health, founded on our natural constitution; because they confine themselves to what the Scriptures contain. The Scriptures, in prescribing sobriety and temperance, moderation and activity, clearly coincide with the natural law on this subject; but we ought not to study the former to the exclusion of the latter; for, by learning the structure, functions, and relations of the human body, we are rendered more fully aware of the excellence of the scriptural precepts, and obtain new motives to observe them in our perception of the punishments by which, even in this world, the breach of them is visited. Why the exposition of the will of God, when strikingly written in the book of Nature, should be neglected by divines, is explicable only by the fact, that when the present standards of theology were framed, that book was sealed, and its contents were unknown. We cannot, therefore, justly blame our ancestors for the omission; but it is not too much to hope that modern divines may take courage and supply the deficiency. I believe that many of them are inclined to do so, but are afraid of giving offence to the people. By teaching the people to regard all natural institutions as divine, because they proceed from the Creator, this obstacle to improvement may, in time, be removed, and religion may be brought to lend her powerful aid in enforcing obedience to the natural laws."

Holding them to be closely connected with health, the author proceeds to consider the subject of amusements, regarding which much difference of opinion prevails. When we have no true philosophy of mind, he premises, this question becomes altogether inextricable, because every disputant ascribes to human nature those tendencies, either to virtue or vice, which suit his favourite theory. Philosophers, however, cannot make and

unmake mental faculties and their organs, nor vary the functions and laws of action of these to suit different views, be they ever so ingenious. He next observes—that, by frequent and long continued action, every mental organ becomes fatigued, just as the muscles of the leg and arm grow weary by protracted exertion. Indeed, it cannot be conceived that the mind is susceptible of fatigue at all, except through the organs. We can comprehend how the fibres of the organ of tune may become exhausted by a constant repetition of the same action, and demand repose; but, he concludes impressively the idea of an immaterial spirit becoming weary, is altogether inconceivable. From this law of our constitution, therefore, it is plain that the all-good and all-wise Creator intended variety of employment to be essential to our welfare. Hence He has graciously bestowed on us a plurality of faculties, each having its own peculiar organ, so that some may rest, while others are actively employed. Now, among these various faculties and organs, there are several which appear obviously destined to contribute to our amusement; “a circumstance,” as Addison has remarked, “which sufficiently shows us, that Providence did not design this world should be filled with murmurs and repinings, or that the heart of man should be involved in gloom and melancholy.” Mr. Combe adds this illustration of his doctrine:—

“We have received a faculty of the ludicrous, which, when active, prompts us to laugh and to excite laughter in others. We have received organs of tune and time, which inspire us with the desire, and give us the talent, to produce music. Our organs of voluntary motion are so connected with these organs, that when we hear gay and vivacious music played in well marked time, we instinctively desire to dance; and when we survey the effect of dancing on our corporeal frame, we discover that it is admirably calculated to promote the circulation of the blood and nervous influence all over the body, and thereby to strengthen the limbs, the heart, the lungs, and the brain; in short, to invigorate the health, and to render the mind alert, cheerful, and happy. To such of my audience as have not studied anatomy and physiology, and who are ignorant of the functions of the brain, these propositions may appear to be mere words or theories; but to those who have made the structure, functions, relations, and adaptations of the various organs a subject of careful study and contemplation, I feel assured that they will appear in the light of truths. If such they are, our constitution proves that amusement has been kindly intended for us by the Creator, and that therefore, in itself, it must be not only harmless, but absolutely beneficial.”

This most instructive lecture concludes with an admonition and rules to distinguish between the use and abuse of natural gifts; with a “line of demarcation” between the use and abuse of the stage and the fine arts; and with an exhortation to “try all things,” to maintain virtue as well as knowledge, to discern it. If then, the Creator has constituted our minds and bodies to be benefited by amusements; has given us faculties specially destined to produce and enjoy amusement; and has assigned a sphere of use and abuse to these faculties as well as to others; it is clearly injudicious in the amiable, the virtuous, the charitable and the religious—in persons meriting our warmest sympathy and respect—to place themselves in an attitude of hostility, and of open and indiscriminate denunciation, against amusements founded on the laws of our nature. Instead of bringing all the weight of their moral and intellectual character to bear upon the improvement and beneficial application of these institutions, as it is

obviously their duty both to God and to society to do, they fly from them as pestilential, and leave the direction of them exclusively to those whom they consider fitted only to abuse them. This, our philanthropist avers, is an example of piety and charity smitten with a moral paralysis through ignorance, and with a fatal cowardice through want of discipline.

While examining this prophylactic lecture, we have enjoyed an extreme satisfaction in contemplating the author's motives and object, his zeal and sincerity; and we would trust that the preceding sketches may prove instrumental in persuading many of our readers to investigate the principles on which his doctrine is founded. Should any one ever have entertained a doubt of its truth and value, as a medical principle, they will here find abundant reason for concluding that the **PRESERVATION OF BODILY AND MENTAL HEALTH IS A MORAL DUTY.**

We must defer our review of Dr. Combe's "Notes on the Americans" till our next.

RAMBLES IN EUROPE, IN 1839. WITH SKETCHES OF PROMINENT SURGEONS, PHYSICIANS, MEDICAL SCHOOLS, &c. By W. Gibson, M.D. Professor of Surgery in the University of Pennsylvania, &c. Octavo. Philadelphia, 1841.

THESE light sketches—or "pencilings by the way"—are evidently by a practised hand—the emanations of a mind possessed of quick perception and facile delineation. Dr. Gibson seems to have been determined to furnish a strong contrast to some of our own tourists who travel from Niagara to New Orleans, their pens or pencils dipped in the bile that was stirred up by the transatlantic voyage. We will not assert that our good-natured confrere has not fallen a little beyond the—

Certi denique fines

Quos citra vel ultra nequeat consistere rectum,

dipping his plume too often in the finest copal varnish, and diffusing the flattering unction rather too freely over every character with which he comes in contact. Certainly a more kind-hearted traveller and painter never traversed the old world from beyond the western wave. The Doctor was evidently predetermined to be pleased with everything—or at least every person—that met his eye on the banks of the Thames, the Forth, the Liffey, and the Seine. These likenesses, though almost always flattered, are never caricatured. The features and forms can never be mistaken, though the colouring is often higher than Nature acknowledges. Take, for example, the following excellent sketch of our departed friend—

SIR A. COOPER.

"Imagine a tall, elegantly formed man, moderately robust, with a remarkably pleasing and striking countenance, red, and fresh as a rose, apparently about fifty-eight or sixty years of age, but, in reality, above seventy, very agile and graceful in all his movements, simply, but handsomely attired, with the spirit

and vivacity, and bearing of a youth, with, in short, no marks of advanced age, except a head as white as the driven snow,—and a very just conception may be formed of the appearance of Sir Astley Cooper.” 17.

Sir B. Brodie's portrait is equally tranchant.

“ His appearance was altogether different from what I had supposed; for, instead of being full, stout, and ruddy, as most Englishmen are, I found him thin, pale, and, seemingly, delicate and dyspeptic; the result, however, as it struck me, of hard professional work, mental as well as corporeal, rather than of natural feebleness of constitution. His countenance was pensive, and verging towards a melancholy cast, but the moment he spoke it was lighted up by a smile, so peculiarly winning and attractive, so strikingly benignant and intelligent, as (added to uncommon softness and sweetness of voice, with manners so gentle, unpretending and free from assurance or arrogance,) to be calculated, I thought, to captivate, irresistibly, the most fastidious taste.” 22.

We can only make room for one or two more sketches.

MR. LAWRENCE.

“ I had not inquired about his personal appearance, and was, therefore, particularly struck, upon entering his study, with his fine, manly figure; his open, expressive, intelligent countenance; his large and well-proportioned head; his lofty and expanded forehead; his clear and brilliant complexion; his mild, but sparkling, gray eye: and then when he spoke in a tone so quiet, modest and unassuming, with a manner so gentle and conciliating, and expressed himself so kindly and affectionately towards our country—its institutions and citizens—I could not but feel I stood in the presence of a superior being, could almost imagine I had known him all my life, and warmed towards him insensibly, as if he had been an old, long-tried, and intimate friend.” 26.

MR. GUTHRIE.

“ In outline, Mr. Guthrie's face resembles slightly that of the late Dr. Physick—his countenance is animated and expressive, and full of good humour and benevolence. He is, indeed, universally considered, I believe, to possess the most amiable feelings, but when roused by opposition, or cross-examined in courts of justice, is said to be so keen, searching, sarcastic and witty in his observations and replies, as to silence, in a short time, the most talented members of the bar. His stature is about the medium height—his form muscular, inclining to *embonpoint*, well turned, if not decidedly handsome, and his whole air and bearing lofty; but his manners, at the same time, so free, easy, engaging and devoid of affectation, as to gain, irresistibly, the confidence of strangers, and secure, in a short time, their attachment.” 31.

Our author was agreeably disappointed with Mr. Liston, having heard that he was “ eccentric, rough, and uncouth in his manners, and a perfect *ursa major*, upon whose humour there could be no dependence.” We have known Mr. Liston a great many years, and certainly we formed a very different estimate of his character. Dr. Gibson soon found that he had been egregiously misinformed respecting this eminent surgeon.

“ Such misrepresentations are, no doubt, to be traced, in some instances, to the apparent eccentricities of Mr. Liston; for though, seemingly, of robust frame and great strength of constitution, he is so solicitous of preserving his health, and is so confident of the value of active exercise on horseback, as for a long time to have kept hunters and a pack of hounds, which, while he lived at Edinburgh, he exercised at day-break, and long before most of his brethren were out

of bed. It is said he has now abandoned the sport, having fractured his pelvis, and nearly broken his neck at some inordinate leap, and since that period has followed the exercise of a boatman on the Thames, by rowing every morning several miles before breakfast. He has a passion for domestic animals—horses, dogs, and cats. His enormous black cat, *Tom*, is almost as well known in London as Liston himself, being, not unfrequently, mounted alongside his master in the splendid chariot, and a constant guest at his hospitable board, where I had the honour of forming his acquaintance, by finding his foot in my soup before aware of its proximity to my plate.” 35.

In this good-humoured way Dr. Gibson sketches most of the prominent medical characters in the three capitals of the British Isles, as well as in Paris—interweaving numerous sensible remarks on the various institutions which he examined. The work is very amusing, and will have a most extensive circulation, especially in the United States. This volume furnishes innumerable proofs of the talent, acquirements, and liberality of its author.

REPORT UPON THE MORTALITY OF LUNATICS. By *William Farr*, Esq. F.S.S. Read before the Statistical Society of London.

MR. FARR is well known to all our readers as a very zealous and able cultivator of medical statistics. The Report before us is as creditable to his diligence and judgment as its predecessors, and has been drawn up, we perceive, at the request of the Council of the Statistical Society. It is founded on the Reports of the Hanwell Asylum, Returns from the Bethlem Hospital, and the valuable series of tables submitted to the Society last year by Colonel Sykes. It was thought desirable that the mortality of lunatics in two of the largest public institutions of the country, should be compared with the mortality in the licensed proprietary houses; and that, if the mortality differed, the differences should be investigated, and traced to their causes, by the methods of statistical analysis which we now possess.

We shall present a pretty full account of this Report, as we think it likely to prove serviceable, more particularly as Mr. Ewart has given notice of his intention to move in the House of Commons for the appointment of a fresh Committee to inquire into the management of the Asylums.

The persons of unsound mind in England amount to several thousands. They are usually of middle age, frequently parents, and are of all conditions and ranks of life: 494 lunatics confined under the Crown possess property yielding an annual income of 317,154*l*.* 6,402 idiots, and 7,265 lunatics, have been returned to Parliament as paupers.

“Great improvements have taken place in the treatment of lunatics. In the best asylums they are no longer shut up in cells like wild beasts, nor punished

by harsh keepers. Their chains have gradually been struck off. A further step has been attempted. At the Middlesex Asylum no strait-waistcoats, straps, or other instruments of personal coercion have been used since the 21st of September, 1839. The experiment was first tried at Lincoln, and it is now contended by persons of experience, ability, and integrity—by Mr. Hill, Dr. Conolly, and the visiting justices of Middlesex,—that in a house properly built, with skilful medical supervision, and a sufficient number of humane and intelligent keepers, personal coercion should be abolished. This is denied by other gentlemen of equal humanity, who maintain that although all restraint *may* be dispensed with, the strait-waistcoat should still be employed as a remedy in the paroxysms of mania. A keen controversy has been waged on the subject. Asylums not only differ widely in the extent to which restraint is carried, but in the space allotted to patients in their employment, food, and medical treatment. The cost of criminal lunatics at Bethlem is 15s. a-week; of idiots or lunatics in the workhouses, 2s. 10d. to 3s. 6d. a-week. Some of the asylums are under the control of the visiting justices, others are visited by the Metropolitan Commissioners; the hospitals of Bethlem and St. Luke are not visited at all, but are managed by the officers and governors; while a very large number of lunatics are farmed out, or confined in workhouses, by the parish authorities." 2.

Amongst so many systems the determination of the best can only be effected by a comparison of their results—in fact, of the recoveries and deaths.

The number of lunatics and dangerous idiots under confinement in Middlesex, and in the parts of Surrey and Kent within the jurisdiction of the Metropolitan Commission, is about 3,110, and the following was their distribution in 1839:—

	Males.	Females.	Total.
In the Asylum at Hanwell . . .	346	488	834
Bethlem Hospital . . .	148	151	299*
St. Luke's	104	136	240
Guy's . . . . .	...	24	24
34 Licensed Houses . . .	787	926	1,713
Total	1,385	1,725	3,110

459 men, and 419 women in the licensed houses are not paupers; and many persons insane in different degrees remain at home under the care of their friends. The London workhouses contain a considerable number of idiots and lunatics. Exclusive of these 3,110 persons, others are confined as lunatics in the public institutions of the metropolis. When it is considered that insanity is a long disease, which not only disables the patient, but often renders him difficult to control, and dangerous to himself and to society, the fact that 7 in 10 of the 3,100 lunatics fall upon the public for support and treatment, will not be deemed surprising.

The Hanwell Asylum was opened on May 16th, 1831, and the number

* Exclusive of 16 out on leave.

of lunatics admitted in the 9½ years, ending September 30th, 1840, as shewn in the following Table, was 2,029; the number discharged was 1,171; of whom 449 had recovered, 66 had been relieved, and 656 had died: 858 remained in the asylum. More than *half* the patients die in Hanwell, and more than *one-third* are cured.

	Men.	Women.	Total.
Admitted from 16th March, 1831, to } 30th September, 1840	1013	1016	2029
Discharged during the { same period, <i>viz.</i>	Cured 223 Relieved 42 Died 374	226 24 282	449 66 656
Total.....	639	532	1171
Remaining on 30th September, 1840 ..	374	484	858
Proportion in 100 of patients discharged, <i>viz.</i> —			
Cured.....	37.	42.	38.
Relieved.....	7.	5.	6.
Died	58.	53.	56.

It has been a question whether the deaths should be divided, as in this case, by the 2,029 patients admitted, or by the 1,171 discharged, in order to obtain the mortality of the cases. It is evident that the latter is the true divisor; for, if the mortality remained the same, the probability is that the 858 patients *to be discharged* would, *ceteris paribus*, be discharged cured, relieved, and dead, in the same proportions as the 1,171 already discharged.

The average number of lunatics in the Hanwell Asylum, since it was opened, has been about 589, or 250 males and 339 females.

The deaths in the 9½ years ending 30th September 1840 were 656 (males 374, females 282); and the insane population out of which they occurred was = 5,498 living one year; the males 2,334, and females 3,164. The average number of males resident was = 250, and 250×9.34 years, the term of residence, = 2,334 years of life. The *annual mortality* of the men was 16 per cent., of the women 9 per cent., and of the whole population, without distinction of sex, 12 per cent.

The mean term of residence in the Middlesex Asylum is 4.48 years—an approximation to the average term of treatment.

From Tables which he submits Mr. Farr observes, that nearly equal numbers of men and women are admitted at the County Asylum, (males 1,013, females 1,016); but that the number of women resident is 36 per cent. greater than the number of men (females 339, males 250); because women remain there about 6 years on an average, and men nearly 3.7 years. The men are discharged more rapidly than the women, both by death and recovery. 11 men per cent. were annually discharged cured, or relieved; and only 8 women. This distinction will explain many anomalous facts; and it should always be taken into account in estimating the prevalence of diseases. Thus there may be ten times as many lunatics in civilized, as in barbarous countries and times; not because the tendency to insanity is greater, but because the lunatics live ten times as many months,

or years. The tendency to insanity in a class is expressed by the proportion that become insane.

Mr. Farr next compares the licensed houses with the Hanwell Asylum. It seems that out of 100 cases in the licensed houses, there were 30 deaths, while out of the same number of cases in the Hanwell Asylum there were 56 deaths. But it was the reverse with the annual mortality per cent. The annual mortality per cent. at Hanwell was to that in the licensed houses as 100 to 130. For various reasons the patients remain longer in the Hanwell Asylum than in the licensed houses, from which 37 per cent. were annually discharged alive; while 9.4 per cent. were discharged annually, cured and relieved, from the County Asylum. The number admitted during the six years, June 1833-39, into the licensed houses was 5,386; making 278 more than 5,108, the number discharged by death, recovery, or otherwise. There were 1,435 in the licensed houses on 30th June 1833, and 1,713 on 31st May 1839. The number of inmates had increased 19 per cent., and, notwithstanding the erection of Hanwell, the increase bore principally upon paupers, for 202 of the 278 were paupers. Mr. Farr compares these paupers with the paupers in Hanwell.

The comparative mortality was as follows :—

	Annual Mortality per cent.	Deaths out of 100 cases discharged.	Mean term of treatment, in years.
Paupers in Licensed Houses....	21	35	1.67
" Hanwell	12	56	4.48
Other patients in the Licensed Houses	11	23	2.15

The annual mortality of paupers in the licensed houses is thus shewn to have been excessive; in fact, the annual mortality of both male and female paupers in the licensed houses was *nearly twice as great as the mortality of paupers at Hanwell, and twice as great as the mortality of other lunatics in the licensed houses.*

It appears that of the licensed houses four are large, the remainder small. Each of the four large houses contained 265 patients on an average, and the annual mortality was 19 per cent.; in the small houses, containing 17 lunatics on an average, the mortality was 9 per cent., and the annual mortality in the four houses increased with the number of lunatics. It was 16 per cent. in the house No. 18; 18 per cent. in Nos. 32 and 33; and 23 per cent. in No. 35. Of the higher class of patients, 26 in 100 cases perished in the large houses, and 21 in 100 in the smaller houses, where the term of treatment was somewhat longer.

"What is the mortality among lunatics in favourable circumstances? Is insanity a fatal disease?"—Upon the latter question there has been a considerable diversity of opinion. Some lunatics live to an advanced age. Of 213 admitted by Dr. Conolly at Hanwell, 15 were aged 60 and upwards, 1 was between 75 and

80; and 58 in 753 at Hanwell had been labouring under the disorder between 20 and 50 years. In 1835 an action (*Fisher v. Beaumont*) was brought at the York Assizes to recover from the *Providence Assurance Company*, £2,000. insured upon the life of the Rev. Mr. F—. In charging the jury, the judge said that they had to consider whether insanity had a tendency to shorten life? If insanity had such a tendency, they must find for the defendant; if not, for the plaintiff. The medical evidence was conflicting; and the jury, after a short deliberation, found for the plaintiff, on the ground that insanity had no tendency to shorten life!*

"We have no means of ascertaining the mortality of lunatics at large; but the mortality of lunatics in asylums is much higher than the mortality of the general population, and the excess cannot be ascribed entirely, although it may partially, to the confinement, the unwholesomeness, or the usages of mad-houses. The mean age of lunatics in asylums is about 35-40. The average age of the patients admitted at Bethlem, (1830-34) was 36 years (36·2); and the mean age of 213 admitted at Hanwell by Dr. Conolly was 36½. The mortality at the age 30-40 is 1·2, and at 40-50 is 1·5 per cent. in England and Wales. In cities the mortality at a corresponding age is not more than 2 per cent. annually. Now the annual mortality at Bethlem, where dangerous cases are carefully excluded, was 9 per cent., in 1827-39. At Gloucester, one of the county asylums, at which the treatment is most successful, the diet is generous and nutritious, and the patients live as much as possible in the open air,—the annual mortality is 7 per cent.

The annual mortality of severe cases of insanity cannot, I think, in favourable circumstances, be less than 6 per cent.; so that the mortality is three times greater among lunatics, than among the general population, at the same age. We have seen, however, that the annual mortality among the better class of patients in the licensed houses was 11 per cent., among paupers at Hanwell 12 per cent., among paupers in the licensed houses 21 per cent., and among pauper men at one licensed house 27 per cent.;—as high as the rate of mortality experienced by the British troops upon the western coast of Africa, and by the population of London when the plague rendered its habitations desolate!" 8.

Mr. Farr inquires,—To what is this excessive mortality referable, to the disease or to the treatment? In answer, he alludes to several facts.

1. The visiting justices of Hanwell state as "an extraordinary and disgraceful fact," that numbers of patients are sent into the asylum, as it would seem, to die. Of 656 deaths, 64 occurred within a month after admission. A similar complaint is made at many hospitals; and there is probably a tendency to send dangerous cases, or cases in their most critical stage, to public institutions. The exclusion of such cases from Bethlem reduces the mortality, but they cannot all be excluded without giving the asylums the advantages of that *selection*, which is so profitable to Assurance Offices. For in a disease so fatal as insanity, a certain number of lunatics are necessarily on the verge of death at the period of the disease when admission into an asylum is usually sought; and a due proportion of such cases cannot fairly be excluded.

Reference has also been made to the fact that out of 834 patients in Hanwell on December 31st, 1839, about 655 had been in other asylums, or workhouses, for considerable periods. Many cases were admitted in the chronic stages of insanity; but this, though it will account for a smaller number of recoveries, and the high proportion of fatal cases, will not account for a high *annual rate* of mortality. The *annual rate* of

* Medical Gazette, August 8th, 1835.

mortality is greater in the acute than in the chronic stage of insanity. Thus at the hospitals of Bethlem and St. Luke the annual mortality among the class called "curables" was 11 per cent., and only 6 per cent. among "incurables" (chronic cases). At Hanwell the annual mortality of lunatics in the state of mania, monomania, or melancholia appears, so far as it can be determined, to be about 12 per cent., while in cases of incoherence, imbecility, or dementia, (chronic stages of insanity,) about 8 per cent. die annually.

2. Mr. Farr pursues a batch of patients in the Hanwell Asylum through a period of $7\frac{1}{2}$ years, and notes the deaths that successively occurred in each half year. The following are some of the main particulars.

The numbers stated to have been *relieved* were 14 per cent. of the numbers *cured and relieved*; and as the proportion remained nearly the same through the seven years, the two classes of facts have not been distinguished.

The annual rate of recovery in the *first half-year* was 24 per cent.; and the rate of mortality was nearly 25 per cent. The two rates remain high in the *second period* (the rate of recovery 16, and of mortality 14, per cent.), while they declined respectively to 3, and to 8 per cent. in the *third period*; and 2·3, and 7·0 per cent. annually, between the $5\frac{1}{2}$ and $7\frac{1}{2}$ years after admission into the asylum.

The rate of mortality, continues Mr. F., in an unit of time increases as the malady advances up to a certain point, and then declines regularly, in all diseases which have hitherto been investigated arithmetically. And this law regulates insanity. At Hanwell, 18 in 100 living die annually in the first $1\frac{1}{2}$ year; and 8 in 100 annually for 6 years afterwards. If an asylum, therefore, contained none but persons in the first year and a half of the disease, (after admission is always understood,) the mortality would be 18 per cent.; while it would be 8 per cent. in an asylum for chronic cases between $1\frac{1}{2}$ and $7\frac{1}{2}$ years. Without implying any disparagement to the treatment in the former case, the rate of recovery in the two asylums would differ in a still greater degree, as it would be 19 per cent. in the first asylum, and only 3 per cent. in the second, set apart for the exclusive reception of the advanced cases. This separation seldom takes place in practice. The chronic and acute cases are always mixed in an institution like Hanwell; but it is evident that in the first years after it was opened, the proportion of cases in the early stages must have been greatest, and the proportion of lunatics in advanced periods of the disease must have since progressively increased. According to the above laws, the proportion of deaths and recoveries should gradually have declined, and this was the fact.

The annual mortality was 17 per cent. in the first three years, and 10 per cent. in the last three years; the annual rate of recovery was 14 per cent. in the first, and 8 per cent. in the last period. In the licensed houses which have been many years in existence, the annual rate of mortality was 13·6 per cent. in 1833-36, and 17·2 in 1836-39.

After some observations, Mr. Farr constructs a table of mortality and recovery for lunatics.

Nosometrical Table.

No.	Period of the Disease dating from the day of Admission.	The Number of Lunatics who			Cases terminating in each Period.		
		Enter upon each Period.	Will Recover	Will Die Insane.	Total Number.	By Recovery.	By Death.
	Years.	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>
1	0	1,000	380	620	217	108	109
2	0.5	783	272	511	213	112	101
3	1.5	570	160	410	61	21	40
4	2.5	509	139	370	48	12	36
5	3.5	461	127	334	43	11	32
6	4.5	418	116	302	41	11	30
7	5.5	377	105	272	35	9	26
8	6.5	342	96	246	32	8	24
9	7.5	310	88	222	..	..	..

If we take 1,000 lunatics at the stage of the disease corresponding to the time of admission at Hanwell, 217 will be discharged (108 recovered or relieved, and 109 dead) in the half-year following, leaving 783 to enter upon the second period, to be reduced year by year, until at the end of $7\frac{1}{2}$ years only 310 remain. The range of the present series of observations extends no further, but the relative proportion of recoveries and deaths remains nearly as 88 to 222 during the last six years; and to complete the scheme of the table it may be assumed that 88 of the 310 will recover, and 222 will die. The columns *b*, *c*, shew, therefore, that of 1,000 cases, 380 will recover, and 620 die; that at the end of $1\frac{1}{2}$ year, 160 will recover, and 410 will die.

The *mean future duration of insanity, or the expectation of disease*, cannot be deduced from the preceding table, because it breaks off at the end of $7\frac{1}{2}$ years; but if the annual rate continued the same ($1\cdot10$), 7 of 310 would remain insane 40 years, and the mean future duration of insanity at the period of admission at Hanwell would be 6.7 years; at the end of half a year it would be 8 years; and after $1\frac{1}{2}$ year, it would be 10 years.

In the six years 1834-39, when the inmates were = 3,875 living 1 year, 706 were discharged; one in 5.5 therefore was discharged annually. If the institution had existed several years, and the numbers admitted and discharged had been equal, the mean duration would have agreed with this, and have been 5.5 years; but as Hanwell was opened in 1831, and only 1,179 out of 2,029 admitted, had been discharged on the 30th September, 1840, the 6.7 years is probably nearer the true mean duration.

Dr. Conolly ascertained the previous duration of the disorder in 191 cases (exclusive of 10 congenital cases) admitted during the year; 66 had been labouring under the disease less than six months; 26 between 6 and 12 months; 24 between 1 and 2 years; and 1 had been insane 39 years. The mean previous duration was 3.4 years. But, as little more

than half the number had been insane *twelve months*, the time of admission may be represented by 1, or $1\frac{1}{2}$ year.

The mean age of 213 persons at admission was $36\frac{1}{2}$ years; the mean age of 195 at the time of the *first attack* of insanity was stated to be $32\frac{1}{2}$ years.

The *probable future duration of insanity* is shewn, by table, p. 27, to be $2\frac{1}{2}$ years at the time of admission; for, in $2\frac{1}{2}$ years, the 1,000 cases are reduced to 509. The chances that a patient will, or will not, remain insane $2\frac{1}{2}$ years are 509 to 491, or nearly equal. Among those who remain insane half a year after admission, the probable future duration of the disease is nearly 4 years.

The *probability of recovery* at admission = $\frac{330}{1000} = \cdot 380$; of dying insane = $\frac{670}{1000} = \cdot 620$. Half a year after admission the probability of recovery is $\frac{347}{1000} = \cdot 347$; of dying insane $\frac{653}{1000} = \cdot 653$. The numbers in juxtaposition, in columns *b* and *c*, express the respective chances of death and recovery; thus, $6\frac{1}{2}$ years after admission at Hanwell, the chances are 272 to 105 that a lunatic will *not* recover. All these probabilities depend more or less on the assumption that 88 in 310, remaining at the end of $7\frac{1}{2}$ years, will ultimately recover.

The *probability of recovery, or of dying*, within any year, or years, up to $7\frac{1}{2}$ is accurately shewn by the table. In the first half-year the *probability of recovering* is $\frac{108}{1000} = \cdot 108$; the probability of recovering in $3\frac{1}{2}$ years is $\frac{253}{1000} = \cdot 253$. Out of 1,000 cases, 253 recover in that time; hence $\cdot 253$ is the probability of recovery. The *probability of dying* in the first half-year is $\frac{109}{1000} = \cdot 109$; in the two years following $\frac{180}{1000} = \cdot 180$.

From a table of this kind the lives of lunatics can be insured; and, from the present table, they may be insured for a limited number of years.

The table is an instrument by which the effects of treatment on the mortality—the number of recoveries—and the duration of all diseases, can be accurately measured. It enables us to compare two or three different plans of treatment, and to determine their effects upon the principal results at which all medical treatment aims—the reduction of the mortality, and of the duration of the disease. Thus if 139, of 509 lunatics that have been $2\frac{1}{2}$ years in Hanwell, will recover under the present treatment, and 200 recover under any new mode of treatment that may be introduced, the advantages of the latter would be obvious; and still more so, if the *probable duration* of the disease were reduced from 10 to 5, or 2, years.

As *age* advances, the mortality and the probability of recovery decline. The sex, says Mr. Farr, age, and stage of the disease are the principal internal causes that influence the mortality, except the form of the disease which, exclusive of congenital idiocy, may be, perhaps, reduced to an element already discussed—the “stage of the disease.” The influence of complications, of sex, and of age, may be assumed to be nearly the same in the licensed houses and Hanwell, as in ordinary asylums—the asylum, for instance, at Gloucester, where the mortality does not exceed 7 per cent. annually. The mortality of 7 per cent. may be fairly ascribed to insanity. The excess above this must be attributed to the diseases generated by the limited space in which the unhappy lunatics are confined—to the collection

of large numbers under the same roof—the impurity of the atmosphere—the want of exercise and warmth—the poor unvaried diet—and the deficiency of medical attendance.* But the influence of these agents can only be ascertained by a Parliamentary inquiry; and it will not be denied that the causes should be investigated which raised the mortality of lunatics above the standard—57 per cent. among private patients, 71 per cent. at Hanwell, and 200 per cent. among paupers in the large licensed houses.

Bethlem Hospital.—This differs essentially from the Hanwell Asylum, as well as from the majority of the licensed houses, in the stricter selection of patients for admission. By the rules the following cases are inadmissible:—lunatics who have been insane for more than twelve months; who have been discharged uncured from other hospitals; in a state of idiocy; afflicted with palsy, or with epileptic, or convulsive, fits; and suffering from any dangerous disease. Notwithstanding the instructions in the admission papers, the petitions of 58 out of 311 (19 per cent.) who applied in 1836, were rejected. The patients are not allowed to remain longer than one year. 253 lunatics admitted in 1836 had been insane 83 days, on an average; 117 had been insane less than a month.

It would be exceedingly interesting to determine the mortality of this selected class of lunatics for 12 months. But, if dangerous symptoms come on at Bethlem, the patients are dismissed, when practicable, as *improper objects*. Thus, of 3,026 discharged in 10 years, 829 were dismissed uncured, 483 as *improper objects*, and 145 dead. A great number of the “improper objects” would die soon after they left Bethlem; and their dangerous state, or supposed incurability, was the alleged cause of their dismissal. Paralysis, however slight, even of a finger, is the forerunner of death in the insane; and of 210 dismissed as improper objects (1831-36), 87 were paralytic, 59 “sick and weak,” 24 epileptic, 4 apoplectic, 2 had “fits,” and 28 were idiotic.

The lunatics at *Bethlem* are divided into three classes; “curables,” “incurables,” and “criminals.”

21 of the lunatics on the list of the hospital were constantly out on leave of absence; and during the 13 years, 122 individuals were discharged as “out on leave of absence.”

Of 100 “curable” patients discharged, 54.5 were cured, 5.2 died. The mean term of treatment was .586 year, = 7 months; or .49 year, = 6 months, if the time spent out of the hospital, on leave of absence, be excluded. The lunatics discharged as “improper objects” were 14.5 per cent.; a considerable portion of whom would have been numbered with the dead if they had remained.

The annual mortality was 8.8; the recoveries 92. per cent.; 24.5 per cent. were discharged as improper objects, 43.4 were discharged uncured;

* The diet and the condition of lunatics at Hanwell have been latterly ameliorated very considerably by the Visiting Justices, at the suggestion of the present accomplished physician; and the mortality may be expected to be reduced in proportion. It is also right to state that in some licensed houses the mortality of private patients does not exceed 7 per cent.

2.1 were out on leave of absence. 171 were discharged annually out of a constant population of 100.

If the deaths which occur among those out on leave of absence are not recorded, the annual mortality to 100 resident in Bethlem is 10.5.

Incurables.—72 “*incurables*” were admitted; 72 discharged (33 men, 39 women), and the average number resident for 13 years was 64.2. The years of life were therefore $= 64.2 \times 13 = 834$. Nine incurables were cured, 39 died, and 24 were discharged at the request of their friends.

Of 100 cases 13 recovered, 33 did not recover, and 54 died. One in 11.6, = 6 per cent. were discharged annually; the mean term of residence was 11.6 years. 1 in 21, = 4.7 per cent. died, and 1 per cent. was cured annually.

“*Incurables*” is an improper term; but it is a recognition of the law that recovery is infrequent in advanced stages of insanity.

Criminals.—In the 13 years 71 criminal lunatics were admitted at Bethlem (56 men, 15 women); 51 were discharged, namely, 26 died, 2 escaped, and 23 recovered. The average number resident was 57.3, the years of life 745.

Of 100 cases, 45 recovered, 51 died. The annual rate of mortality was 3.5, of recovery 3.1 per cent.; the mean term of treatment deduced from the years of life, and the number discharged, was $14\frac{1}{2}$ years. The numbers admitted and discharged in the 11 years (1827-37) were nearly equal (36 and 39); and the years of life divided by the number discharged $= \frac{613}{39} = 16.7$ years.

It is evident that several of the criminals, such as Oxford, cannot properly be said to labour under insanity—in the sense of a disease. It is, if anything, like idiocy, a congenital misdevelopment of the brain.

The number of recoveries is considerable at Bethlem, but less than at some private asylums, notwithstanding the careful selection of cases. The mortality is reduced by excluding dangerous cases, and by dismissing the patients on the verge of death, as “*improper objects*.” It is difficult, under these circumstances, to account for the death of nine or ten in 100 annually, upon any other supposition than that the mortality is high at the early stage of the disease in Bethlem.

Admission and Discharge of Lunatics.—The last Committee of the House of Commons on Lunatics, stated in their report, “It has been clearly established in evidence, that there is no due precaution *with respect to the certificates of admission, to the consideration of discharge, or to the application of any curative process, to the mental malady.*” Lunatics under confinement, it should be well recollected, are *prisoners*; and every one will admit that the depriving a man of his personal liberty, or turning loose a lunatic on society, are acts involving great responsibility,—a responsibility which, if it exist at all, is very imperfect in the present state of the law. In order to deprive a lunatic of his estates, a formal inquiry is publicly instituted; but a person who has been seven days chargeable to the parish may be committed as a lunatic to the County Asylum by two justices of the peace on the certificate of *any* physician, surgeon, or apothecary, asserting that the “*said person appears to be insane of mind.*” 2,780 pauper lunatics are confined under these certificates in the county asylums.

But there are 1,389 lunatics, and 7,007 idiots, "under the care of the parish officers as in-door or out-door paupers." Many of them are necessarily under restraint, without either warrant or certificate; which is only required when the parishes think it necessary to send them to a public asylum, where their treatment costs two or three times as much as the workhouse fare.

Paupers may be sent to licensed mad-houses by a justice, or by the officiating clergyman and overseer, with one medical certificate; and other persons may be sent to a licensed house by any layman, upon the certificates of *any two* medical men. It appears also that by law, any person whom the governors choose to admit as a lunatic, may be confined at Bethlem, or St. Luke's Hospital, for an unlimited time.

The liberation of persons in confinement as lunatics, takes place under no better regulation. Medical visitors have been appointed, in the words of Lord Lyndhurst, "to see that the Chancery lunatics are well cared for, but above all to *watch the least glimmering of returning sanity, and see that the parties are not detained one day longer than necessary.*" The relatives, parish-officers, proprietors, justices in petty-sessions, and the Metropolitan Commissioners release lunatics from the licensed houses; but the mode in which this is effected is by no means satisfactory. "When once," says Colonel Sykes, "they (pauper lunatics) get shut up in a mad-house, it is indeed difficult for them to regain their liberty." Lunatics are discharged at the discretion of the visiting justices from the county asylums; by the governors from Bethlem, St. Luke's, and other hospitals supported by subscription; and by the parish officers from workhouses.

Mr. Farr concludes—

"Many cases of abuse have occurred under the present system, which will be probably thought by the Society to require extensive alterations. And although there would be much difference of opinion on many points, all will probably agree that *no person should be placed under restraint as a lunatic in asylums, hospitals, or houses of any kind, who has not been examined by a public officer, practically acquainted with insanity.* I would therefore suggest that by some modification of the present system of inspection, the circumstances of every lunatic confined should be investigated personally by a crown officer, and recorded previous to committal, at the expiration of every quarter of a year after admission, and at the time of dismissal. The sex, and age, the stage, form and complications of insanity should be registered, on entering and leaving the several institutions, by impartial officers. This would be a protection to lunatics, and to the public; the deaths and recoveries would be registered on a uniform plan, and an invaluable statistical check on the results of treatment would be obtained."

- I. A MEDICAL GUIDE TO NICE—ALSO, OBSERVATIONS ON THE CLIMATE OF BAGNERES DE BIGORRE, as the most eligible Residence for Consumptive Patients. By *W. Farr*, M.D. 8vo. pp. 174. Churchill, 1841.
- II. A WINTER IN THE AZORES ; AND A SUMMER AT THE BATHS OF FURNAS. By *Joseph Bullar*, M.D. and *Henry Bullar*, of Lincoln's Inn. 2 Vols. 8vo. with Plates. J. Van Voorst, London, 1841.
- III. THE SANATIVE INFLUENCE OF CLIMATE, &c. By Sir *J. Clark*, Bart. 3d Edition, 1841.

"MEN run to and fro, and knowledge is increased." This year we have three treatises on the climates of Naples, Nice, the Azores, and Pyrennees—so that when we take in Madeira, Torquay, Clifton, Undercliff, Hastings, and the Cove of Cork, medical men will be not a little puzzled to determine on the spot which will most effectually prevent or cure phthisis in their patients. Experienced practitioners, and those who have visited the various localities in question, entertain very chastened hopes or expectations from the sanative virtues of climate in phthisical affections ; but the afflicted sufferers themselves are always sanguine, and it is necessary therefore, that the physician at home should know as much as possible of the climates abroad that are most resorted to by invalids. We must glance over the publications at the head of this article, and cull as much information from them as we can, for the benefit of our readers.

I. NICE.

It appears from Dr. Farr, that Nice was resorted to by the Roman invalid. Its climate has not changed for at least one hundred years past—and therefore we may suppose that it is nearly the same as it was two or three thousand years ago. It had once a reputation for the cure of phthisis—but "this reputation, experience has taught us, was not founded in fact."

"There is no doubt that the majority of pulmonary invalids either find no benefit from a residence at Nice, or go away with an augmentation of disease ; but it is a difficult task to point out any locality which will be favourable to every consumptive patient." 4.

Dr. Farr still considers Nice a favourable residence for those on whom "this disease steals imperceptibly, as in scrofulous habits."

"For all others, the eastern coast of Spain, from Barcelona to Valencia, and Pau in France, are the best in Europe during the winter, and Bagnères de Bigorre, in the department of the High Pyrenees, in the summer." 4.

Dr. F. thinks that the climate of Nice places the patient under more favourable circumstances for treatment than colder climates—that it keeps up the action of the skin, relieving diseases of the heart and lungs—more

especially the former—and that it enables the patient to pass at least six hours daily in the open air, by which he obtains amusement and salutary exercise, incompatible with an English winter. He grieves to say that most people go abroad with two objects in view—health and pleasure. In pursuing the latter, they too often risk the former. “They rush into society with an avidity—frequent crowded and heated rooms—and, after midnight, change a temperature above 80° for one often below 40°. The consequences are, rheumatism or neuralgia among the old—inflammatory affections of some vital organ, perhaps, among the young.”

There is considerable variety in the climate of Nice; but the locality under the range of the Cimiez hills, is the warmest part of the environs. “This is the spot for pulmonary invalids, for here they possess all the advantages of an inland climate, and yet, not being the fashionable quarter, it remains unfrequented.”

“It was at Cimiez that the Romans fixed themselves, and do we afford proof of superior wisdom in choosing our abodes in more exposed and less salutary situations? Nice has its advantages, and they are unheeded; its disadvantageous positions, and they are resorted to; the result is, that patients leave Nice no better, perhaps worse, than when they arrived, and leave it, terming it a detestable climate.” 9.

The author thinks that it would be difficult to point out a spot in Europe more favourable than this for cases of phthisis, “or one where a well directed plan of treatment would have an equal chance of enabling the patient to *throw off the disease*.” Alas! we fear that few phthisical patients ever throw off their disease till they have shuffled off the mortal coil along with it. The grand objection urged against Nice is the dryness of the climate. But this dryness, though prejudicial in some diseases, is beneficial in others.

“The easterly wind prevails in the months of March and April: this wind sets in with the first moon in March, called by the natives the blood-red moon; it is severely felt by the invalid and those in delicate health; and even the strong feel and acknowledge its evil tendency. Last season the number of patients of all nations labouring under affections of the chest might have amounted to thirty; the great majority had materially improved their state of health up to this period, and they were daily to be seen, like butterflies in the sun, riding, driving, and walking over hill and dale. I besought those whom I attended, and many that I did not, to quit Nice before the birth of this fatal moon; but they, confident in their amended health and strength, heeded not my counsel, and thought I had overrated the danger; they remained, and the day after this easterly wind began, of the thirty I only met one afterwards, and him I had often previously pronounced to have no disease of the lungs. Were it not for these winds, Nice would be perhaps the finest climate in the world: I do not mean for consumptive cases, but for many other diseases which I shall hereafter mention.” 17.

We now come to the diseases benefited by the climate of Nice. Dr. Farr enters into some discussion on the nature of tubercles, and of their nidus. This dissertation we pass over, as almost entirely theoretical. Dr. F. thinks that he has succeeded not only in effecting absorption of tubercles, but in effecting a cure “*even after suppuration had existed for several months*.” In the warm and dry climate of Nice, “calomel may be tried with a fair chance of success.” He has seen it administered in doses of

five grains, night and morning, and continued for six weeks, without producing salivation. The preparation, however, which Dr. F. prefers, is the iodide of iron, which he has exhibited, he says, both at Nice and Bagnères de Bigorre, whose climates are the reverse of one another, with much benefit.

"The largest quantity I have given in a day at Bagnères, is twelve grains; at Nice, eighteen; but in one case, in which it was given in two-grain doses by a native practitioner, it produced, within a fortnight, great emaciation and debility: if, however, it be properly administered, it may be continued for a period of six weeks, or even longer, without any apprehension of dangerous consequences. It reduces the pulse often to the standard of health; the patient gains flesh, health, and strength, under its use; but it should never be given without the advice of some one accustomed to its exhibition: it should not be allowed to accumulate in the system, and, to prevent this, purgatives should be from time to time administered. There is also another preparation of iron which I think I have occasionally used with advantage; this is a chlorate, or the golden drop of the Germans. But, previously to the exhibition of any medicine, either alone or in combination, given with a view to promote the absorption of tubercle, it is highly necessary that the secretions should be properly regulated, and not only that they be good and healthy, but that assimilation should be perfect; in short, that there should be no functional derangement of any organ save the lungs themselves.

Only such cases of phthisis as are in their earliest dawn or invasive stage, when the disease is rather suspected than positively confirmed or established, should be sent here: to the later stages of this malady, the dry, irritating nature of the atmosphere proves prejudicial, and hurries them faster to the tomb." 46.

In cases of scrofula, however, our author gives Nice the preference over all other climates in Europe. In all forms of chronic rheumatism and rheumatic gout, the same locality is eulogised by Dr. Farr.

"I shall briefly notice the other diseases in which benefit may be expected from a residence here: these are—chronic bronchitis, accompanied with expectoration; chronic, and even acute affections of the larynx, those, at least, which have demanded active treatment in England, generally suffer no inconvenience during their sojourn; humid asthma; dyspeptic cases which arise from want of tone in the stomach itself, or from indolent secretion of any organ concerned in the process of digestion; hypochondriacal affections generally; urinary calculi. In hydropic affections I can recommend it strongly: I arrived here last year with so much water in both my legs, that at night I could bury my fingers in them: in less than a month I threw away my bandages, which I had worn for at least three months; and this was entirely the effect of climate, for I employed no remedial means. I have seen several other cases which offered the same result. In secondary syphilis also, whether in the form of eruption or diseased bone, and indeed in eruptive diseases generally, the climate appears to be exceedingly favourable. I succeeded in one case, the brother of a native physician, whose face and nose were covered with what the French call *squamous dartre*, in the short period of twenty-five days; though he had tried every remedy, as suggested in Turin, Paris, and Germany, for a period of two years and a half: two years have now elapsed since his cure, and he still remains well. Diseases of the heart experience great relief; attacks of gout yield very soon to proper treatment; varicose veins; all cases of languid circulation unaccompanied by organic disease; the coughs of the climacteric period also." 57.

In the list of diseases in which the climate of Nice is prejudicial—Dr. F. places all or most cases of phthisis where the complaint is beyond the

invasive stage—dry bronchitis—dyspepsia attended with irritation—pre-disposition to apoplexy or hepatic affections, as also diseases of the kidneys or bladder.

BAGNÈRES DE BIGORRE.

This rather uninteresting town, of some seven thousand inhabitants, lies at the foot of the Pyrennees, on the French side, and its brilliant verdure resembles that of England in Summer, contrasting strongly with the burnt-up, dreary, and arid aspect of the Spanish side. The town is rather clean, for a French town, and each street has its murmuring rill running down its centre. The rides and walks about the town are very beautiful.

"Of all the walks, that on the Salut road is the most desirable for the pulmonary invalid; it has a gentle ascent for some distance, is shaded by magnificent poplars, and is well calculated to try his strength, and exercise his lungs." 95.

The great attraction of this place is its peculiar atmosphere, of no great extent, indeed, but sufficient to enable the invalid to take whatever exercise he requires, in every direction except one. The town stands on a bed of argillaceous rock, which being disintegrated by time and winds has the appearance of a wood. This remarkable locality extends, on the south, about a mile and a quarter from the town, and to about an equal distance northward and westward—a space large enough for the usual exercise of a pulmonary invalid. The western parts of the town are best for these patients, being near the Salut road and thermal springs; but for people in health, the Square or Place, is the best.

"In the climate of Bagnères it would appear one can live, as we are accustomed to do in England, upon a mixed diet of animal and vegetable, and can bear very well the strong wines of Spain; the wine found at Bagnères is execrable; I should therefore counsel those who pass through Bordeaux, to secure a provision. The pulmonary patient may even require a small quantity of good claret.

The atmosphere of Bagnères is by no means a desirable one for those in health; one has only to look at the indigenous inhabitants of the soil to be satisfied of this fact: the generality of them, and particularly the working class, are sallow and unhealthy looking, and quite the reverse of handsome. The climate of Bagnères is a decided one; it is anti-irritating and moist, depressing to the healthy, and has a tendency to allay irritation in every organ; and the pulmonary invalid soon finds that this is the kind of atmosphere he ought always to inhale: to him it is decidedly beneficial from the beginning; he escapes what the healthy never fails to experience—the seasoning common to all decided climates, the functions of each organ are more quietly performed, and the organ itself is soon brought into so tranquil a state, that any change in its structure, originating in disease, has a fair chance of being removed by proper remedial means; he is, in fact, placed in the best situation to be treated: climate, however favourable, rarely does more than this. A patient coming to Bagnères with serious disease, and deranged structure of lung, will feel the beneficial influence of the climate while he remains, but, without treatment, he no sooner quits, than he finds his gain is not permanent; his sufferings return, and his disease is just in the state it was on his arrival; he is aware, too late, that he has lost a favourable opportunity, which the advance of disease may not permit a second time to be presented to him." 99.

Dr. F. avers that the invalid subjected to "judicious treatment" goes away "permanently benefited by the removal of a portion at least, of diseased structure." This is a startling sentence, for what pathologist can expect such miracles—except in the hands of the bellows-mender in Hatton Garden?

The season at Bagnères is short—from the early part of June till the end of September. Then the thermometer falls to 50° in the evenings—and the Pulmonary invalid ought to depart for Pau or Rome. He strongly dissuades such persons from going to Nice. The thermal springs of this place, of considerable reputation in other complaints, have very little in pulmonary affections.

II. The second work on our list is chiefly occupied with the descriptions and remarks of general travellers, and therefore we must endeavour to cull out such portions as bear most on medical matters.

The Azores are comparatively little known to the people of this country, except by the St. Michael oranges, and their enormous onions. St. Michael's was the first foreign soil on which we placed our feet, and we have still a vivid recollection of its fine climate and luxurious vegetation. In the sixth Chapter, our authors take up the FURNAS, about twelve miles from Villa Franca, whither they repaired on the 29th day of December. The principal spring or Caldeira, is sulphurous, coming hissing and boiling out of the ground, and diffusing volumes of vapour through the air. It bubbles up through a loose bottom of broken rock, and like the Sprudel, sends up a small column three or four feet in height. The ground beneath trembles, and a pumping sound, like that of a powerful engine, is heard far below. It is evident that the ground is a calcareous crust, like that round the Sprudel, and may, one day, fall in! At a little distance from the principal Caldeira is a deep smoking pit, at the bottom of which the water is seen boiling furiously. A little way from this is a boiling cauldron of mud, of the "consistency and colour of the creamy sweepings of Regent-street." The vapour that rises from the burning soil is strongly impregnated with sulphuretted hydrogen gas. The iron springs squirt the boiling water through the interstices of volcanic stones, covering them with a thick coating of bright orange rust.

"After looking at the caldeiras, we took our bath, and it certainly was never my good fortune before to bathe in an *invigorating* warm bath. It produced a feeling of strength instead of lassitude, and the skin seemed not alone to have been cleansed, and rendered most agreeably smooth, but to have been actually renewed." 117.

They afterwards took a draught of the iron spa, which sparkles with gas and smacks strongly of steel.

"Most invalids feel that before-breakfast existence is burdensome; but this bath and draught of liquid iron were as a breakfast in producing serenity and happiness, and were more than a breakfast in giving warmth and briskness, and a feeling of health, as of the flowing of younger blood through the veins; and instead of destroying the power of making another they rather increased it many-fold." 118.

The climate of the Furnas in January, is much like that of October in England—pleasant days, but cold mornings and evenings. The climate of Villa Franca on the coast is much milder and more equable.

"As soon as we began to descend the mountain towards the sea, we felt the change of climate, and much enjoyed the delicious warmth of the afternoon sun, whilst riding along the lanes near the coast. But although the climate of this town is nearly unexceptionable, I am not sorry that the English climate is unlike it; for, with the same warmth at home, instead of Englishmen being what they are, they would have grown up a race of lazy, donkey-riding paupers. It is impossible to live here and not to feel the influence of that spirit of laziness which seems to have settled over the island." 131.

Our authors kept a meteorological register of the climate of Villa Franca, during the months of December to April inclusive. In December, the medium heat was $58\frac{1}{4}^{\circ}$, range 4 degrees.—January 60° , range 3.—Feb. 60° —range 3—March 60° —range 4.—April 59° —range 4.—General average 60° — $9'$. This shews a fine climate for the foregoing months. It is almost exactly that of the South of England in the month of August.

"The mean temperature of the winter months in St. Michael's, according to these observations, is 2° colder than Madeira; 5° warmer than Lisbon; 13° warmer than Nice; 12° warmer than Rome; and 12° warmer than Naples." 321.

The humidity of St. Michael's is greater than at Madeira or Naples, but less than that of London or Rome. The rain at Villa Franca, on some days, was little more than a mountain scud of a few minutes' duration—at other times it fell heavy. There was only one day of continuous rain during the whole time they were in these islands.

"At the same time, the humidity is so great that your boots grow mouldy in a few days; kid gloves speedily become spotted; books feel damp, and your clothes smell musty.* To prevent these inconveniences, as fires, with one or two exceptions, are nowhere used, except for cooking purposes, the inhabitants are much in the habit of hanging out their clothes in the sun." 323.

This is a considerable drawback on the climate. Our authors observe that this inconvenience might be remedied by lighting a small stove for a couple of hours in the evenings. The skies are rarely cloudless, and the invalid can spend the greater part of the day in the open air.

The natives of St. Michael's are more prone to nervous and atonic, than to inflammatory and sthenic diseases. One of the most prevalent complaints is gastralgia, with little disorder of the digestive functions. This is probably owing to the diet, among the lower classes, which is chiefly cabbages and potatoes, with lard. But these people are also subject to neuralgic affections of other parts of the body. Hypertrophy of the heart is more frequent than in England. Elephantiasis tuberculata is endemic there.

Consumption is extremely rare, though bronchial inflammation is common. It is hardly necessary to say that it is only in the most incipient stages of phthisis, or rather in hereditary predisposition to that malady, that the climate of the Azores can be applicable. But as the climate of Madeira is nearly if not quite as good, and as there are few accommodations for British invalids in the Western Islands, they can hardly be recommended at the present time. The work altogether will be found very amusing to those who visit these beautiful islands.

* "I have been informed by a gentleman who spent a winter in Madeira, that the damp in that island produces precisely the same effects."

III. The new edition of Sir James Clark's work is nearly re-written—much having been omitted, in order to make room for new matter. This last is, however, so dovetailed and interwoven with the original matter that it would be extremely difficult to collate the second and third editions, so as to eliminate the additions and corrections made to the present volume. Nor is it necessary. The work is the standard one on climate, and will be in the possession of most intelligent practitioners.

Our readers will remember that Dr. Farr recommended pulmonary invalids to leave Bagnères de Bigorre for Pau or Rome during the Winter. Dr. F. gives us no account of PAU, and therefore we may make a few extracts from Sir James's work, to fill up the hiatus.

PAU is finely situated in the lower Pyrennees upon a ridge of gravelly hills, overlooking an extensive valley to the north. Behind it rise the stately Pyrennees, but with a very gradual ascent, the highest range being 40 miles distant from the town. Sir James is indebted to Dr. Playfair, now of Florence, who resided several years at PAU, for the following:—

“Although the character of the climate of Pau corresponds with that of the South-west of France generally, it possesses some peculiarities which it owes to its topographical situation. Notwithstanding its distance from the coast, it is very much under the influence of the Atlantic. All the changes to which this gives rise extend as far as Pau, though modified, in some degree, by distance, and, still more, by the position of the place with respect to the neighbouring mountains. Calmness, for example, is a striking character of the climate, high winds being of rare occurrence and of short duration.

The mean annual temperature of Pau is $4\frac{1}{2}^{\circ}$ higher than that of London, and about 3° higher than that of Penzance; it is about 5° lower than that of Marseilles, Nice and Rome, and 10° lower than that of Madeira. In *winter*, it is 2° warmer than London, 3° colder than Penzance, 6° colder than Nice and Rome, and 18° colder than Madeira. But in the *spring*, Pau is 6° warmer than London, and 5° warmer than Penzance; only $2\frac{1}{2}^{\circ}$ colder than Marseilles and Rome, and 7° colder than Madeira. The range of temperature between the warmest and coldest months at Pau is 32° : this at London, and likewise at Rome, is 26° ; at Penzance it is only 18° , and at Madeira 14° . The daily range of temperature at Pau is $7\frac{1}{2}^{\circ}$; at Penzance it is $6\frac{1}{2}^{\circ}$: at Nice, $8\frac{1}{2}^{\circ}$; at Rome, 11° .” 189.

PAU is nearly exempt from the oppressive southerly winds, on the one hand, and the cold north-east winds on the other. Although the climate may be said to be rainy, yet it is not subject to some of the evils which usually attend wet climates. Rain seldom continues more than two days at a time, and is followed in a few hours by warm sunshine—the soil rapidly absorbing the fallen rain. The atmosphere is remarkably free from humidity.

“In October some snow generally falls on the centre chain of the Pyrennees; and, at Pau, this fall is marked by a sudden change of temperature, the weather becoming rainy and chilly. In November the weather clears up, and becomes milder. December and January are cold and dry; frost and slight snow-showers then occur, but the snow does not lie on the ground. The sun is bright and warm; and from twelve till three o'clock, an invalid may generally take exercise. February is milder; but, towards the end of this month the spring rains fall, and the weather is then chilly and disagreeable. March is mild, but variable; though there are no cutting winds. In spring, westerly winds, which are soft and mild, accompanied with rain, alternate with dry easterly winds, also of a mild character. Hence it is, that the vernal exacerbation of inflammatory affections of the sto-

mach and lungs, so commonly observed in other climates, is little felt by invalids at Pau. Vegetation bursts forth in the first week of April, which is a warm month. May resembles April, but is warmer. In June the weather is hot and fine. July, August, and September, are very hot months, the thermometer sometimes rising as high as 94° in the shade; with a very powerful sun, preventing exercise from eight in the morning till seven in the evening." 192.

According to Dr. Playfair, the good qualities of the winter climate of Pau, may be summed up as follows:—

"Calmness, moderate cold, bright sunshine of considerable power, a dry state of atmosphere and of the soil, and rains of short duration. Against these must be placed,—changeableness, the fine weather being as short-lived as the bad; rapid variations of temperature within moderate limits. In autumn and spring there are heavy rains." 193.

PAU is, generally speaking, healthy; rheumatism, being the most prevalent complaint among the natives. Goitre is also common.

"The characteristic quality of the climate, however, is the comparative mildness of its spring, and exemption from cold winds. While the *winter* is 3° colder than the warmest parts of England, and 6° colder than Rome, the *spring* is $5\frac{1}{2}^{\circ}$ warmer than the former, and only $2\frac{1}{4}^{\circ}$ colder than the latter. The mildness of the spring, and its little liability to winds, render this place favourable in chronic affections of the larynx, trachea, and bronchi. In gastric dyspepsia Dr. Playfair has found it beneficial, and he has seen it useful in a few cases of asthma. With delicate children, also, he found the climate agree well, especially when they removed to the mountains during the summer.

Upon the whole, Pau appears to be the most desirable winter residence in the south-west of France, for invalids labouring under chronic affections of the mucous membranes. In the same class of diseases, the mineral waters of the Pyrennees are also very beneficial; and it may be convenient, and advisable, for the invalid, who has derived benefit from a course of these waters, to pass the winter at Pau, with a view of returning to them in the following season." 193.

PAU is 150 miles from Bourdeaux, and 50 from Bayonne.

**A TREATISE ON THE NERVOUS DISEASES OF WOMEN:—COM-
PRISING AN INQUIRY INTO THE NATURE, CAUSES, AND TREAT-
MENT OF SPINAL AND HYSTERICAL DISORDERS. By Thomas
Laycock, M.D. &c. &c. London, 1840.**

THE diseases of females have always held a prominent place in medical literature. For whether we regard the protean form they often assume—their frequent danger—or the interesting subjects of them; they possess peculiar claims on our solicitude and attention. In another point of view the study of these diseases is most important; for there is no class of maladies the treatment of which imposes greater responsibility on the medical attendant; or where his character and skill are more frequently placed in jeopardy.

Hence we took up the volume before us with considerable interest and pleasure: and the perusal of the sensible preface led us to hope that new

views, or new lights would be thrown on the pathology and treatment of the class of diseases which the author professes to have carefully studied, and respecting which he comes forward to instruct his readers. It is difficult to pass a judgment in limine on works of this kind. Authors and readers have different tastes and often different objects in view. Hence a good book is not unfrequently censured because it does not chime in with the readers' preconceived notions, or meet the exigencies, or motives, for which he reads it. For instance, the work before us will be perused with far different feelings by the naturalist or speculative theorist, than by the medical man who reads for practical information.

Dr. Laycock seems to be aware of this, and endeavours to obviate the objections that may be made to speculative and theoretical medical publications.

"I have often thought," he states in his preface, "that treatises on the practice of medicine professing to be free from theory and to contain nothing more than a description of diseases, and the methods of treatment, are of questionable utility. The condensed style in which they are usually written admits of no detailed exposition of the principles laid down, or of the facts from which those principles are deduced. The writer consequently appears to dictate rather than to state an argument; to be the occupant of a professorial chair, rather than a fireside companion. The interest which physiology might give to the subject is lost sight of; and thus the work is dry and uninteresting, and never studied."

We do not accord with this opinion of our author. On the contrary, we think that the practical works which he thus describes and condemns, are not only the most studied, but deserve to be so.

Theory may assist us in generalizing recorded facts, but in our opinion few discoveries in medical science have resulted from it; and it is often a fallacious guide in the practical treatment of disease. "*Ars medica tota in observationibus*," is an adage we believe not more trite than true.

Works therefore containing a faithful description of the symptoms, diagnosis, and prognosis of diseases, with the treatment which experience has proved to be the most efficacious, are those to which we constantly refer; and which enable us to decide in the hour of difficulty, when the mere theorist is bewildered in his own mazes. So far from "never being studied," these publications are by far the most popular: we need only, to exemplify our meaning, refer to that of "Pemberton on the Abdominal Viscera." This work, although it contains no theory, is enlivened by no physiological views, and does not evince more than ordinary research, is yet in every body's hands, and why?—because it enables us, by its graphic description of diseases, to identify them—to discriminate them from others—to foretell their probable termination—and to decide at once on their treatment. It is in vain that we look for these desiderata in Dr. Laycock's book. Although it is a sort of monograph, being confined to one class of diseases; yet we may turn over the whole of the pages before we find the connected symptoms of any one of those diseases, or the treatment specifically laid down. We have the "*disjecta membra*"—detached thoughts—theories—anomalies—and symptoms of disease, and the treatment of those *symptoms*:—but we want a more lucid arrangement, an identification of disease—a design, and an end.

The defective and scattered arrangement of the work also renders it

difficult to read, and to ascertain the author's meaning; and this difficulty is increased by the references to authorities being made at the bottom of the page by letters, instead of by the author's names. We are thus compelled to turn back generally three or four times in a page to a long list of authors in the commencement of the book, to know from whom he quotes, or whose opinion he controverts.

Notwithstanding these remarks, we have found in Dr. Laycock's book much to admire; it displays considerable research and contains some original and novel views: yet, we are compelled to repeat, that it neither comes up to the standard of what we think such a work should do, nor will it, in our opinion, fulfil the object which the author himself seems to have had in view.

He has collected a great many facts and circumstances in natural history—such as the periodic changes in insects; the nidification of birds; the period of gestation in animals; instances and proofs that male birds and animals have different tints and colours from the female; that the latter at certain times emit peculiar odours; that emasculation reduces the male, and removal of the ovaries the female, to an intermediate state of colour, &c. &c., with a variety of other similar observations.

Dr. Laycock is of opinion, that many of these facts throw light on the changes and diseases of the female system, and that without a knowledge of them many anomalies would be inexplicable. We do not think that he is borne out in these assertions by the use he makes of the facts, in their application to explain either the causes of disease, or the treatment. Many of his theories are fanciful, others mere assumptions; they may be probable or true—but they add but little to our previous knowledge of the subject. We are far from wishing to disparage the study of natural history in reference to medical science. On the contrary, we think a knowledge of the habits, instincts, and diseases of animals, and of their comparative anatomy, is essential to the study of the diseases of mankind. Our acquaintance with many facts in human physiology and pathology is derived entirely from this source; but we tread on slippery ground when we deduce theories from it for the explanation of the causes of human disease.

We shall, however, better explain our meaning as we proceed in our analysis of this volume.

Dr. Laycock commences the special physiology of hysteria by assuming or establishing four general principles.

1st. The nervous system is the seat of hysteric disease.

2ndly. Hysteria is peculiar to females.

3rdly. Women of susceptible nervous system are more liable than others; and,

4thly. Hysteric diseases appear only during that period of life in which the reproductive organs perform their functions.

We have but little to object to these principles so far as they go: indeed they are generally admitted.

Dr. Laycock, however, controverts the opinion which is commonly held, that the uterus is the exciting cause of that disturbance of the nervous system which occasions the phenomena of hysteria.

Dr. Bright states, that "the peculiar condition of the nerves in hysteria

seems to owe its origin, more or less directly to the extensive nervous sympathies of the uterus, which are capable of being anatomically demonstrated as well as pathologically inferred." Dr. Copland and others advocate very similar doctrines. "It will be observed, however," says our author, "after a careful perusal of these various theories, that they afford no satisfactory explanation of many of the peculiar phenomena of hysteria; of the spasm of the glottis; of the remarkable embonpoint of many hysterical patients under the most meagre diet; of the occasional profuse salivation; of the periodicity observed in the paroxysmal forms; of the more frequent occurrence of the disease in Spring and Autumn; or indeed of a hundred other circumstances connected with its multiform varieties." p. 7.

Now we think that a theory may be a very good one, which explains the usual phenomena of a disease, although it may not account for the anomalies which occasionally attend it. These anomalies may arise from other concurrent causes. With the exception of the first, the symptoms above enumerated are all anomalous: at any rate they are not "peculiar" or essential to the malady. In attempting to explain the various phenomena of disease we are apt to be too exclusive, and because we cannot account for many deviations which may arise during its progress we abandon our theory, forgetting that, in the complex machine with which we have to do, many disordered and inexplicable actions may be set up, although the exciting cause may be essentially the same. Theory is only really useful when it leads to successful treatment, and for this reason we believe that the theory which refers the symptoms of hysteria to uterine disturbance has been productive of the greatest advantage. It is true many vague hypotheses have been framed, to explain *how* the uterus acts to produce hysteria, and in what manner medicines operate to remove it; but the facts and practices on which they were founded still remain: for nature and the laws of the human body are yet the same. We may not be able to account for all the phenomena which may occasionally occur in so complex a disease as hysteria, for analogous symptoms may arise from opposite causes—or, vice versa, opposite conditions of the uterine organs may occasion similar symptoms; but in the main, our treatment will be successful in proportion as we are acquainted with the morbid sympathies of the uterine system, and direct our curative measures accordingly. In the work before us we find many sensible suggestions for the removal of certain symptoms, but the general treatment of hysteria is not very clearly or systematically laid down, nor is the disease itself distinctly or graphically described.

Dr. Laycock's object, indeed, does not appear to have been to give a methodical description of female disorders, or a systematic mode of treatment, but rather to explain them and their anomalies, by analogous reasoning from facts collected from natural history and other sources. We do not think, as we before remarked, that the inferences he deduces from many of these facts are so valuable as he seems to regard them. They do not much advance our previous knowledge of the diseases of the female system, nor lead to any striking novelty in the way of treatment. We shall, therefore, confine our few remaining remarks to a brief consideration

of some of those points of the work to which he invites the especial attention of his readers.

Dr. Laycock states in his preface that, "In the second part of the work the comparison between the diseases of infantile dentition and of puberty, the demonstration and illustrations of the connexion between the gouty diathesis and diseases of the nervous system, the chapter on the pathology of the passions, the relations of paroxysmal diseases to other affections and to the encephalon, and the different endowments of the lateral halves and extremities of the nervous centres, will, I humbly think, offer points of interest both to the pathologist and practitioner."

He commences the first inquiry by shewing that, previously to puberty, the brain is in a condition different from that which is observed after puberty. This, he thinks, "is evident from the impulse given to the intellect on the accession of the latter; and the difference is still more obvious when we consider the effects of cerebral injuries before and after adolescence. While these are among the most fatal injuries which can happen to the adult, in children their consequences are not more grave than those which would follow a lesion (lesion) of corresponding severity in any other part of the body." "Since the cerebrum and generative organs are both undeveloped, we can look for no symptoms specially involving these; but excluding these two sources of excitement and of anomalous symptoms, we have," in the first dentition, "all the remaining phenomena of hysteria. Those usually mentioned by systematic writers may be enumerated as follows:—1. Those originating in organs connected with the upper extremity of the spinal cord; *a.* symptoms originating in the cranial cord—coma, watching, and sudden starting from sleep, increased sensibility of the surface, general and epileptic convulsions, opisthotonos, paralysis; *b.* symptoms implicating the face—strabismus, fixed stare, sardonic grin, trismus, convulsive twitchings; *c.* symptoms referred to the larynx, trachea, and bronchi—aphonia, convulsive cough, hydrophobic gasp, spasmodic closure of the glottis, croupy breathing, wheezing from increased or diminished secretion from the bronchi; *d.* pharynx, œsophagus, and stomach—retching, vomiting, dysphagia, eructation, impaired appetite; *e.* heart—palpitation, syncope; *f.* respiratory muscles—dyspnoea, sneezing, hiccup, yawning. 2. Symptoms implicating the dorsolumbar portion of the cord—paralysis and tetanic extension and flexion of the lower extremities, serous exudation from the buttocks, increased micturition, ischuria, mucous discharges from the urethra, dysuria, constipation, diarrhoea, colic, tympanitic distention. Systematic writers in general agree in making one or other of these symptoms the cause of the rest, the less grave having the blame of originating the graver; so that the protrusion of a tooth through the gums, constipated bowels, or flatus, have had the whole catalogue attributed to their injurious influence. That they are exciting causes may be readily granted; but if dentition necessarily caused such serious symptoms, why are they not observed in every infant? or at the second evolution of the teeth? or when the *dentes sapientiæ* appear? It is true that a constipated state of the bowels will excite convulsions in infants: but why more readily in infants than in adults? during the cutting of a tooth than in the interval? or why, indeed, is there constipation at all?" Why indeed!

We have made this long extract to shew the style and mode of reasoning of our author. He huddles together a catalogue of symptoms, which, he says, are "usually mentioned by systematic writers," as characteristic of one disease—which would apply to all the diseases of the nervous system; but, so far from the above symptoms being usually observed in hysteria or teething, the life of a practitioner may be spent without witnessing a third of them in either. He then assumes that these systematic writers agree to make one or other of these symptoms the cause of the rest. We confess we are unacquainted with such writers. We do not, however, with Dr. Laycock, call the protrusion of a tooth through the gums a *symptom*—but the cause of the symptoms, simply because, in nine cases out of ten, the division of the gum will remove them. Again, he states that, because the brain, previously to puberty, can bear external injury with impunity, it is irritable or "insensible;" because convulsions, &c., occur both in teething and hysteria, they are analogous affections. We apprehend that they who have had the most experience in infantile diseases, will pause before they admit with our author, that the brain is not excitable or prone to disease during childhood. On the contrary, almost all who have attended to the subject will agree, that the brain of children is especially obnoxious to disease from even slight causes of irritation.

This increased susceptibility of morbid action probably arises, as it is generally supposed, from its large supply of blood and consequent early development.

It will be readily granted that convulsions occasionally occur, both in hysteria and in the teething of children—but to render a parallel or analogy between these two diseases really useful, they must be characterised by similar causes, symptoms, prognoses, pathological conditions, and modes of treatment; examined by this test, we humbly think the connexion between dentition and hysteria will offer few points of interest either to the pathologist or to the practitioner.

Dr. Laycock next traces an analogy between hysteria and gout. He states that they arise from a similar cause—have the same pathological connexion—and that the same remedies are applicable to both.

This is his theory.—"In an individual of gouty diathesis an excess of urea, or other urinary constituent, being produced, and, at the same time, in consequence of impaired action of the kidneys a diminished amount being eliminated, the excrementitious matter (like digitalis and other poison) accumulates in the system, and at last overcharging it, causes an 'explosion' (to use the word of Boerhaave) to take place, in the form of a gouty paroxysm, or failing this, excites irritation of different organs in succession, and produces in men the different forms of erratic gout,—in women, of anomalous hysteric disease; the symptoms varying in each individual, as one or other organ weaker than the rest falls under its noxious influence, so that in one case they will be those of mania, in a second of thoracic disease, in another of epilepsy, in another of the hysteric paroxysm, or assume the form of angina pectoris, spasmodic asthma, or local neuralgia." 170.

That the pale urine of hysteric females contains but little urea is well known, but we hesitate before we admit the inference, that because but little is eliminated, there exists an excess in the system, and that this

excess in the *materies morbi*. Dr. Laycock's theory appears to us to be little better than mere assumption. Friendly as we are to the humoral pathology, we must have further proofs than he brings forward before we admit that the presence of urea, or any other urinary constituent, in the system, is the cause of some of the most grave diseases to which mankind is liable. With regard to gout we entirely coincide, however, in the views Dr. Holland and Dr. Prout have brought forward, and we think that their researches will tend to a rational mode of treatment. The former eminent physician thinks, that the existence of some peccant matter in the system, probably in the blood, characterizes the gouty diathesis, and that its elimination constitutes the gouty paroxysm.

Dr. Prout's opinion, in the recent edition of his valuable work, is thus stated:—"According, therefore, to these views, the lactic and lithic acids, considered with reference to rheumatism and gout, may be regarded somewhat in the light of *materies morborum*, or, strictly speaking, the undue presence of these acids in the urine, or elsewhere, under certain circumstances, may be viewed as indices of the existence of certain diseased actions going on in the primary tissues of the body, and which are known by the names of rheumatism and gout."*

These views thus cautiously expressed are clear and definite, and point out the rationale of the preventive and curative measures of gout and rheumatism, but they have but little connexion with hysteria, in which, if we mistake not, an opposite condition of the system exists.

They would lead to an erroneous treatment of this latter disease, and can serve no useful purpose in explaining either the symptoms, causes, or pathological condition.

Dr. Laycock refers to Dr. Conolly and Dr. Ferriar to substantiate his theory of the close analogy between gout and hysteria. We accordingly turned to these valuable writers, and although we do not think Dr. Laycock is happy in these references, as regards his own views, yet the passages are so well expressed, and put the resemblance between hysteria and gout in so proper and practical a point of view, that we take the liberty to quote them.

Dr. Conolly says:—"Some of the older writers laid considerable stress on the influence of a gouty constitution in predisposing to hysteria. Facts of this kind are not easily verified, and hysteria may occur in a gouty family without being really connected with a gouty constitution. There can be no difficulty in an age when a new and more enlightened pathology of the fluids seems to be dawning, in admitting so much of the ancient humoral pathology as to allow that either a gouty, or any other morbid matter in the blood, may be the occasional exciting cause of those nervous irritations which characterize a susceptible temperament, just as in other cases. The same morbid matter, by irritating the nerves of the extremities, appears to excite the common pains of gout and rheumatism. The nervous irritation in these latter examples is sufficiently well established: the existence of a morbid matter yet remains to be proved."†

* Stomach and Urinary Diseases, by Dr. Prout; p. 211.

† Cyclop. of Pract. Med., art. Hysteria; p. 571.

The passage to which Dr. Laycock refers in Dr. Ferriar is the following. "There is a strong resemblance between hysteria and gout in the power of counterfeiting different diseases, *but with this material distinction*, that the hysterical representations are commonly void of danger, while those produced by gout are often more dangerous than the simple disorders which they imitate. The hysterical hæmoptœ, for example, is seldom productive of bad consequences—but the arthritic apoplexy, pneumonia and cardialgia, are much more alarming, and run their course quicker, than similar complaints originating from other causes. But these diseases agree in this respect, that the accession of the regular paroxysm puts a favourable period to the irregular symptoms of each."*

In the chapters "on the pathology of the passions—the relations of paroxysmal diseases to other affections of the encephalon—and the different endowments of the lateral halves and extremities of the nervous centres"—many novel and hypothetical views are advanced which display considerable research and ingenuity. But as they do not elicit much practical information, we shall pass them over, and select some of our author's remarks on the treatment of disease, which we think will be more interesting to our readers.

In this, however, the therapeutic part of the work, we have the same fault to find as in the descriptive; we have no definite plan of treatment laid down, or rules given by which the precise adaptation of remedies may be made. The divisions and subdivisions of hysteria are innumerable. We have hysteric catarrh, hysteric bronchitis, hysteric tetanus, hysteric hepatitis, hysteric constipation, &c.

We very much question whether this method of applying the epithet "hysteric" to distinct diseases simplifies our knowledge of them: on the contrary, we think it tends to confuse and embarrass. It is well known that the peculiar feature or characteristic of hysteria is to simulate other diseases, as has been ably shewn by Dr. M. Hall, Sir B. Brodie, Ferriar, and others; and great skill on the part of the practitioner is often required to discriminate the feigned from the real disease. But to designate the latter hysteria simply because it occurs in a constitution prone to hysteria, is, we think, improper—because it tends to divert our attention from its real nature, as well as from its appropriate remedies.

In the general treatment of hysteria Dr. Laycock strongly recommends air and exercise, and those means which tend to divert and exhilarate the mind, and give tone and strength to the body. In that form of hysteria which is occasionally observed in habits hereditarily predisposed to gout, he gives the following formula, which is also a great favorite with him in some other anomalous hysterical affections.

℞. Ferri sulph. gr. xv.
Pulv. colocynthidis gr. ij.
Pil. hydrargyri gr. xij.
Extract. colchici acet. gr. ix.
Extract. gentian. gr. xxx. M. et fiat pilulæ xij.

One to be taken three times a day.[†]

* Med. Histories and Reflections, Vol. 2, p. 43.

One of the predisposing causes of hysteria is a neglected and confined state of the bowels : and a train of ill health in females may often be traced solely to this source. We were not however aware of the extent to which this neglect is carried, until we met with this startling passage.

"Constipation.—It is surprising how long a period delicate women will occasionally allow to elapse between each evacuation of the bowels ; from five to ten days is by no means an unusual time, and sometimes as many weeks have intervened. The constipation of hysterical females depends partly upon paralysis of the intestine, and partly upon diminished secretion from the mucous surfaces : unless there be a local cause it is always proportionate to the severity of the general disease, and accompanied by more or less ischuria, tympanitis, abdominal and spinal tenderness, &c.

It is in the severe cases of hysteria that the most extraordinary constipation has been witnessed ; in such, from three to six months, and even seven years, have elapsed without a stool." 244.

In many of the gastric affections of females Dr. Laycock speaks highly of the nitrate of silver, and the trinitrate of bismuth. We bear our willing testimony to the efficacy of the latter remedy in gastrodynia and pyrosis, which are common diseases in females. It is usually given in doses of from five to ten grains, with an equal quantity of magnesia twice or thrice daily, and when the pain is severe, with the addition of half a grain of opium. In protracted cases the nitrate of silver is a valuable remedy, and was first introduced into notice by Autenrieth, Ruff, and Dr. James Johnson. Dr. Laycock gives the following formula from Dr. Steinitz of Greiffenberg.

"℞. Argenti nitr. crystal. gr. v.
Solve in aquæ distillatæ, q. s. et adde
Extracti taraxaci
Pulv. rad. glycyrrh. aa q. s. ut fiat massa in pilulas xx. dividenda.

One or two of these pills to be taken in the morning and again in the evening, with mucilaginous drinks."

The sections on spinal tenderness and distortions will be read with interest. They contain extracts from Stromeyer and other writers on these subjects, and point out a correct diagnosis and treatment of these affections.

On the whole, the work of Dr. Laycock evinces considerable extent of reading and industry of research : and although it has been our misfortune to differ from him in our estimate of the value of some of his opinions and theories, as well as of the general arrangement of his book, yet we take leave of him with a high opinion of his talents, and of his zeal for the improvement of his profession.

THE TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. Instituted 1832. Vol. IX. London : John Churchill, 1841.

Our Provincial Brethren continue to display the same zeal, the same steadiness of purpose, and the same information, as when they first began to publish their Transactions. These volumes are highly useful—they keep alive a spirit of observation, and acquaint the professional world with many valuable facts which would otherwise be unrecorded.

The contents of the present volume consist of—I. Proceedings of the Association at Southampton,—which comprise, Address by Dr. Jeffreys—Address by Dr. Steed—Report of the Council—Thackeray Prize—Parochial Medical Relief—Vaccination Section—Medical Reform—Report on Empiricism—Report of the Benevolent Committee—Medical and Surgical Papers and Cases.

II. Retrospective Addresses.—The Retrospective Address in Surgery, delivered at the Eighth Anniversary Meeting of the Provincial Medical and Surgical Association, held at Southampton, July 22nd and 23rd, 1840. By A. T. S. Dodd, Esq., Surgeon to the Infirmary, Chichester.—The Retrospective Address, delivered at the Eighth Anniversary Meeting of the Provincial Medical and Surgical Association, held at Southampton, July 22nd and 23rd, 1840. By Roger W. Scott, M.D., Physician to the South Dispensary, Liverpool.

III. Medical Topography.—Medical Topography of Shrewsbury and its Neighbourhood. By T. Ogier Ward, M.D., Shrewsbury.—Statistics of Rheumatism. By Edmund Lyon, M.D., Physician to the Manchester Royal Infirmary, Dispensary, &c.

IV. Essays and Cases.—Observations relating to Injuries of the Skull and Brain, in which the use of the Trephine is considered. By John M. Banner, Esq., Surgeon to the Northern Hospital, Liverpool, and Lecturer on Surgery at the Medical School of the Liverpool Royal Institution.—On the Moveable Cartilaginous Bodies found in the Synovial and Serous Cavities. By James Macartney, M.D. F.R.S., Honorary Member of the Provincial Medical and Surgical Association, &c.—A Case of Amputation of the greater part of the Lower Jaw. By A. T. S. Dodd, Esq. Surgeon to the Infirmary, Chichester.—Cases of Abscess forming within the Pelvis after Labour, with Observations. By Thomas W. Wainwright, Esq. Surgeon to the Liverpool Northern Hospital.—Cases illustrative of the Pathology of Biliary Concretions. By George Mallett, Esq., Surgeon, Bolton-le-Moors.—On the Influence of the Depressing Passions on the Health and on Disease. By J. K. Walker, M.D. one of the Physicians to the Infirmary, Huddersfield.

V. Infirmary Reports and Medical Statistics.—A Report of the Out-Patients, attended by F. Ryland, Esq., at the Birmingham Town Infirmary, between the 25th December, 1837, and the 12th December, 1839.—A Report of the Cases attended at the Birmingham Eye Infirmary during the Years 1838 and 1839. By Richard Middlemore, Esq. Surgeon to the Infirmary.—Suggestions as to the form of Register for Hospitals, Dis-

pensaries, and Private Practice. By Charles Cowan, M.D., Physician to the Royal Berkshire Hospital and Reading Dispensary, Fellow of the London Statistical Society, and Member of the "Société Médicale d'Observation" of Paris.

The Retrospective Addresses we cannot praise too highly. They severally offer a valuable epitome of what has been done in medicine and surgery during the last twelve months, and will be read with the same interest which must have waited on their delivery.

THE MEDICAL TOPOGRAPHY OF SHREWSBURY is cleverly handled by Dr. Ward.

We can only notice one or two points connected with it. The first of these is the physical character of the inhabitants, who are either agricultural, mining, or townsmen. The recruiting officer, an authority, declares that the men enlisted in this district are quite equal, if not superior, to the ordinary average. This however applies to the agricultural and town population only; for the inhabitants of the coal district are a short, stunted race, broad-chested and powerful upwards, but weak in the legs and very subject to deformities of the toes, that unfit them for marching. This weakness of their lower limbs is owing to the constrained positions of sitting, kneeling, or lying on the side, in which they work in extracting the coal and ironstone; and these positions are rendered so habitual to the colliers, that they generally prefer squatting on their hams to any other posture, either at home, or when congregated in the streets, where they may be seen sitting in rows with their backs against the wall. The miners work in less constrained postures in following the veins of ore, and hence they do not differ in figure from other men. Except the dreadful accidents from explosion, &c. to which both colliers and miners are exposed, their occupation does not seem to produce any directly prejudicial effects upon either of them. False melanosis of the lungs, from the inhalation of particles of coal, and of the smoke of gunpowder in the pits, is almost unknown in the coal districts. Some of the lead miners however have suffered from colica pictonum. Independently of disease, the whole class of colliers, iron-founders, and lead-miners, are subject to premature old age, from the intense heat which some, and the hard labour which all undergo.

Variations of the Population.—These shew the influence of employment upon population. Where the former is rife, there is an influx of labourers—when scarce, an emigration of them. This important and natural fact must be recollected at the present moment when the operation of the corn-laws is so engrossing a question.

In the first decennial period, the population of Shrewsbury increased only as much as would result from the average excess of births over deaths; in the second, half as much more; and in the third, but little more than half. The county population, on the contrary, increased a third more in the first period, only half in the second, and two-thirds of the average in the third. The mining parishes increase their numbers by a fourth only

of the average in the first decade, by a fourth more than that sum in the second, and by double the average in the third.

A reference to the third table will explain in some degree the causes of this fluctuation, by shewing that it depends in a considerable degree upon the migrations of the male population in search of employment; thus, at the last census, nearly nine per cent. of the males had quitted Shrewsbury, while a number of men, equal to five per cent. of the inhabitants, had immigrated into the mining parishes; the county population experiencing little influx of males, but rather lessening by the emigration both of males and females.

Dr. Ward does not know what peculiar causes operated to increase the town population during the second decade, but the falling off in the mining district was doubtless owing to the great encouragement given to agriculture by the increased price of wheat (nearly forty per cent.) above what it bore in the previous ten years; for we observe that, though the mining population decreased, the whole county increased more than the average. The second decade, embracing some years of peace, gave a stimulus to manufactures, and not only prevented the emigration of the miners, but produced a reflux of the tide from the agricultural part of the county sufficient to restore the average, and even more; and this stream has continued to flow during the third decade with augmented velocity, which, to judge from the present state and prospects of the iron trade, there is every reason to believe it still retains.

Great Prevalence of Insanity.—An examination of a table of the insane presents us, observes Dr. Ward, with a very unsatisfactory view of the intellectual state of the county of Salop, whether we compare it with the adjoining ones, or with such as exhibit an approximation to it in any of the points of comparison mentioned. In the first place, the number of the insane in Salop is exactly the same as in the adjoining county of Stafford, but the proportion to the population is nearly twice as great, and the proportion of idiots almost twenty per cent. more; and we observe the same inferiority if we take a county partly mining and partly agricultural, as Northumberland; or one wholly agricultural, as Sussex. In the next class, where the proportions are similar of the insane and the population, the proportion of idiots averages eleven per cent. less than in Salop. Dr. Ward justly remarks that the prevalence of idiocy may be taken in some degree as the measure of the intellectual degradation of a country, though doubtless climatorial influence, as in the canton of the Vallais, in Switzerland, has considerable effect in the production of this form of insanity. In the third class we see a close approximation to the state of Salop, if we take into consideration both the proportion of insane to the population and the per centage of idiots, except in Buckinghamshire, which, it is remarkable, was, previous to the passing of the new Poor Law, in the worst state, with regard to pauperism, of any county in the kingdom. All these countries it may be observed are agricultural. Lastly, if we compare Salop with the general average of England, and of England and Wales, we find it inferior to both united, though superior to Wales alone, to which it thus rather closely approaches, not only in climate and soil, but also in intellectual character. It is worthy of remark that the proportion of idiots is

the highest in three of the most mountainous counties of Wales, viz., Carnarvon 68.4, Denbigh 75.9, and Merioneth 82. Having thus exhibited the dark side of the picture, it is but right to take a more favourable view, and to state that there are few counties in the kingdom that can boast of a longer list of worthies in the sciences, arts, or arms, than Shropshire.

STATISTICS OF RHEUMATISM.

Dr. Lyon, of the Manchester Royal Infirmary, contributes these.

It appears that the aggregate of rheumatic cases in ten years was 291 out of 3561 *home-patients*, or a little more than 8 per cent.; that 103 of these were chronic, and 188 more or less acute, making the ratio of the latter something more than 5½ per cent. (5.28.)

On referring to the monthly accounts it will be seen that they are highest, both absolutely and relatively, in April and May, and lowest in August and September,—being, in April, 35 out of 332, or 10.54 per cent.; in May, 40 out of 329, or 12 per cent.; in August, 13 out of 282, or 4.6 per cent.; and in September, 18 out of 324, or 5.5 per cent.:—or, taking the acute and subacute cases only, 6.9 and 7.9 per cent. in April and May, and only 3.19 and 3.7 per cent. in August and September. Next to these, the months of February, March, and December, exhibit the smallest proportion of rheumatic cases.

If we now advert to the influence of *sex*, it will be seen that, of the whole number of rheumatic cases recorded in the table, the number of males and females was nearly equal,—145 of the former, and 146 of the latter; or, throwing out the chronic cases, 96 males, and 92 females,—a very different result from what is observed in the kindred disorder, gout. Nevertheless the absolute numbers must not be taken as a true measure of the liability of the two sexes to this affection; for, the total number of males admitted being 1439, and of females 2122, calculation will show a relative excess of rheumatic males over females, including the chronic cases, in the ratio of 10. to 6.88 per cent.; and, excluding them, in the ratio of 6.67 to 4.33 per cent.; or, in either case, very nearly as 3 to 2. It may also be remarked, with respect to the acute and subacute cases, that whilst, in January, August, September, and December, there is a slight excess of females, in April the males are as 10.44 to 4.5, and in May as 11.59 to 5.23.

After furnishing a very carefully compiled table, Dr. Lyon proceeds:—

“ It may be inferred from this series of observations that the tenderness and delicacy of habit belonging to young females render them less liable than youths of the other sex to rheumatic attacks, and that women who have passed the meridian of life become even more liable to such attacks than men of the same age; whilst in both sexes the middle period of life is most favourable to the production of this disease. But if women be, on the whole, less exposed than men to rheumatism, they appear to be more frequently cut off by its attacks; for, of four *deaths* recorded in the 188 cases, three took place in women at the ages of fifty-six, thirty-seven, and nineteen years; and I would attribute this greater fatality in *them* to their greater susceptibility of a particular complication of the disease, which does not appear to have been duly noticed by systematic writers. The complication in question consists of a pulmonary affection—most commonly

in the form of bronchitis—coexistent with the inflammation of the large joints, sometimes superseding it, and occasionally proving fatal. I have not the means of stating accurately the proportion which these complicated cases bear to the whole number; but, on a rough estimate, I would say that not less than a fourth part of my cases have been of this character, more or less strongly marked.” 343.

OBSERVATIONS RELATING TO INJURIES OF THE SKULL AND BRAIN, IN WHICH THE USE OF THE TREPHINE IS CONSIDERED. By JOHN M. BANNER, Surgeon to the Northern Hospital, Liverpool, and Lecturer on Surgery, at the Medical School of the Liverpool Royal Institution.

This is a long and valuable paper. We shall notice some of its prominent points.

After relating seven cases, Mr. Banner observes—“that so long as a patient can be roused to a state of consciousness, or so long as voluntary motion has not ceased, a surgeon would be very wrong in using the trephine, unless some peculiarity in the case rendered it necessary, which we will notice hereafter. In the cases of Hoy and Parkinson a discharge of blood took place from the ear, which may be considered an almost exclusive proof that the fracture extends through the petrous portion of the temporal bone; and where this is observed, I consider it a strong reason against the operation, even in those cases where the symptoms are sufficiently urgent to justify it if this symptom were not present. I would not be understood as considering the fact of a fracture extending through the temporal bone as a fatal consequence; on the contrary, I could relate several cases where this symptom existed, as in those already related, where recovery took place. I would however insist that in urgent cases, where there is fracture, for instance, of the parietal bone, and hæmorrhage from the ear, and compression so great as to destroy the functions of the brain, the operation would be unjustifiable; for in all such cases I have invariably found blood effused at the base of the skull, and often severe injury to the brain itself. It may be said ‘but why not give the patient even this small chance, for without it he must die?’ I would suggest that an operation should not be performed in this nor any other case unless there is a *fair prospect of success*.”

Mr. Banner details seven cases of *Laceration of the Brain*. Mr. Banner remarks upon them:—“The six last cases have been selected for the purpose of drawing attention to the circumstance that in each of them existed *convulsive action*, and in each there was *laceration of the brain*. If it could be proved that in the majority of cases of *compression of the brain*, where laceration of that organ existed, convulsions or convulsive twitchings were a consequence, it would render our diagnosis easier; we might conclude that in a large majority of such cases the blood would be effused beneath the membranes of the brain, and thus render the operation of trephining the skull inapplicable. Cases, however, do occur, proving that convulsions, when attendant on severe injury of the brain, are not always a fatal symptom; this is instanced, in cases of concussion only, where the patients recover; nevertheless this is not a reason why there may not

exist laceration of the brain. The cases I am anxious to draw attention to are those where the compression is so great as to suggest an operation, but where convulsive motions are present, and probably prove laceration and internal hæmorrhage. I am bound, however, to confess that two cases have occurred within the last year at the North Hospital where, on dissection, we found laceration of the brain, and in which cases the convulsive motions were not present. In these cases there was an immediate destruction of almost all the powers, and death took place soon after their admission." He adds,—there are a vast number of cases recorded where there has been laceration of the brain; and the symptom of *convulsive motions* is mentioned in very few of them.

We must confess that we should doubt the justice of the opinion, that convulsions are any decisive evidence of laceration of the brain. When we reflect on the variety of causes that give rise to convulsions, we must hesitate to admit the necessity for so exclusive and structural a lesion as laceration.

Ecchymosis of the Eye-lids.—"Several cases have been admitted into the Hospital where *ecchymosis* of the eye-lids has taken place after a severe injury of the head, often coming on at a period of some hours after the accident; the appearance is very peculiar, the cellular membrane of the lids appears filled with blood, and looks livid and swollen. I have observed that where this appearance has existed in connexion with compression of the brain, in cases which have terminated fatally, that a fracture has taken place in the roof of the orbit, usually extending to the basis of the cranium. I have seen this appearance so often in connexion with a fracture through the orbit, that I consider it an almost sure diagnostic mark of this injury; and where this fracture exists I have observed that there has been effusion of blood at the basis of the cranium, so situated as to render relief from the trephine quite beyond all hope or expectation." 379.

Perforation of the Skull with a Pointed Instrument.—Mr. Banner asks if we may not include cases of this kind among those which require the operation of trephining. He believes that an unfavourable termination results in almost every case which is left unassisted by an operation; it is scarcely necessary to state that an almost universal consequence of such an accident is a fracture and depression of the inner table of the cranium, spicula of bone being often chipped off; in either instance the membranes or brain subsequently suffer. Where the perforation is large, he apprehends there cannot be much difficulty in ascertaining the fact of there being depression of the inner table of the skull; not so, however, where the opening is small; in nearly every case which he has met with, the aperture has been so small as to cause great difficulty and doubt as to the extent of injury; this difficulty has been considered by some writers as a reason why the operation of trephining the skull is improper. Experience, however, proves the contrary; the many recorded cases corroborate this opinion. He conceives that when we are called early to such an accident the operation would be justifiable, even though there were no urgent symptoms present. Authentic records prove that in nearly every case of perforated skull the inner table is chipped off, and produces inflammation and suppuration; the matter, as before stated, usually forming beneath the membranes, in the substance of the brain: if it were otherwise, we

should not be acting correctly in having recourse to the operation before urgent symptoms were present.

The following are Mr. Banner's sentiments on a question of great interest and of much difficulty—whether we should or should not trephine in a case of compound fracture of the cranium with depression, but *without* "symptoms."

"Injuries of the head, in which there is a wound of the scalp, and fracture of the skull, with depression of bone, without urgent symptoms of pressure on brain, ought not to be interfered with, unless the bone is much comminuted, or where the fractured portion is isolated; in which instances we are called upon to render our aid, by using the trephine. Depression of the cranium may remain in many instances without producing any bad consequences, where it is unattended with symptoms of compression. Again, there are numerous instances where such an injury has been followed by extensive mischief. Suppuration may take place on the surface of the *dura mater*; this, however, cannot happen without our being made aware of it by the sympathy usually attendant on the formation of pus on the brain being present. Many eminent surgeons are of opinion that the extent of the depression should guide us in our determination with regard to the trephine: for instance, where the depression is considerable, that the trephine should be applied; where it is slight, it should be avoided; and this, too, where the scalp may not have received any wound. This rule however affords us no assistance with respect to the greater danger arising from the chance of suppuration between the bone and the *dura mater*; this being as likely to occur where the depression is small as where it is large.

Sir Astley Cooper has stated, in his Lectures on Surgery, that there is a great difference as to the danger of inflammation and suppuration of the membranes of the brain between those cases in which the fracture and depression is complicated, with a wound of the scalp, and those in which the soft parts are uninjured; such mischief being much more liable to occur in cases of the first kind than in those of the second; and on these grounds he recommends that, where the complication exists, *we should not hesitate to apply the trephine*; and on the other hand that, where it does not exist, we should carefully abstain from adding to the injury, by dividing the scalp and exposing the fracture. Many persons have recovered in whom there was at the same time a wound of the scalp and a fracture and depression of the cranium, although no operation was resorted to: three cases have occurred within my own observation. Mr. Abernethy relates two cases in his work on Injuries of the Head, and other cases have been recorded, where recovery has taken place without the operation; I conceive, therefore, that in forming our diagnosis, we should carefully consider the exact nature of the fractures. First, where the depression is from the centre of a radiated fracture, and is depressed to a point, with wound of the scalp, the bone should be raised; for in such instances inflammation of the *dura mater* is almost sure to follow. Secondly, where the fracture is isolated and the piece depressed, it should be removed. Thirdly, where there is a comminuted fracture, with wound of the scalp and loose pieces of bone, the depressed portions should be raised and the loose pieces removed." 393.

We confess we do not see the reasons why Mr. Banner should specify these as *the* cases for operation so exclusively. We wish we could think the solution of the difficulty so facile.

Secondary Hæmorrhage.—Mr. Banner observes.—There is one point which does not appear to be clearly understood: it is with regard to the degree of pressure the brain should be allowed to bear before the trephine

is applied for its relief in cases of internal hæmorrhage; we sometimes find patients, who are labouring under symptoms of compression of the brain from effused blood, remain in a state which would scarcely justify the application of the trephine, when, from a sudden aggravation of symptoms, they die. Sir Benjamin Brodie, in his work on *Injuries of the Head*, asks the question: "Does secondary hæmorrhage ever occur within the cavity of the cranium?" and remarks, "In one case which came under my observation I was led to believe that this actually happened, causing sudden death after three or four days of apparent convalescence." In the case just related of John Hughes, the hæmorrhage was very great, so great as to threaten his immediate death, yet the man *walked* a distance of two miles after the accident, and remained sensible for at least three hours after its infliction. It is possible that in this case the artery, which was completely torn across, did not bleed in the first instance.

We conceive that there cannot be a doubt of the *frequent* occurrence of *gradual* hæmorrhage—and of the occasional occurrence of secondary hæmorrhage within the cranium. We know of no law in the economy opposed to either.

With Mr. Banner's opinions on the *treatment of depressions of bone complicated with wound of the brain*, we conclude. He thinks that the surgeon is called upon to use his art for the elevation of the depressed skull; this case must be considered in a very different light to that where an isolated piece of bone has been driven into the brain; here the extraneous matter being detached, loses its vitality, and the restorative powers of the animal system can the more readily act in dislodging it; whereas in the other instance it must ever remain a source of irritation, unless restored to its natural level; it is true that there are instances recorded where persons have recovered in whom a depression of bone has been allowed, under these circumstances, to remain without being elevated; and there are cases also recorded where recovery has followed the elevation of the bone. If we consider this question according to Nature's laws, we shall conclude that where there is a depression of the skull so as to allow a portion of the bone to enter the brain, (the depressed piece being still attached,) and the brain acting on this fixed point, possibly with sharp spiculæ or rough edges, and which from its connexions is supplied with nutrition, and which cannot have penetrated very deeply into the brain, and again, the readiness with which it can be removed, that this irritating substance should be got rid of; and thus the trephine is here rendered useful, as our object should be to raise the depressed bone with as little additional injury to the brain as possible; by the removal of a portion of bone the subsequent steps in the operation will be facilitated.

ON THE MOVEABLE CARTILAGINOUS BODIES FOUND IN THE SYNOVIAL AND SEROUS CAVITIES. By JAMES MACARTNEY, M.D., F.R.S.

Dr. Macartney observes:—"It is a very generally received opinion amongst practical surgeons that these substances are formed in the first instance on a peduncle or footstalk, by means of which a vascular union is maintained between them and the surface of the cavities in which they

are inclosed, and that it is only by the accidental rupture of this footstalk they are set free. It cannot be doubted that such is the fact in some cases, because these bodies are occasionally found attached to the surface of the joints, the tunica vaginalis, the pleura, and the peritoneum, by peduncles, apparently composed of coagulable lymph, and containing blood-vessels; but there appears to be sufficient evidence to prove that, in other instances, they are from the beginning isolated bodies, and devoid of any vascular connexion with the surrounding parts. I have found them placed in circumstances, and organised interiorly in a manner which could only be accounted for by admitting them to possess an independent power of growth and development. For example, I have frequently met with them in the sheaths of tendons without there being the least appearance of their having been connected with the surrounding tissues. In one instance I found above a hundred of these bodies occupying the sheaths of the flexor tendons of the hand, and of various sizes, some being smaller than the pippins of an apple, and very nearly of the same form, while others were two or three times as large, and more spherical in their figure. They had evidently been deposited in succession, and had increased so much in number and magnitude as to raise up the palm of the hand into a convex form."

We apprehend that the loose bodies found in the sheaths of the tendons and the *cartilaginous* substances discovered in joints are not usually of the same description. The former are probably coagulable lymph rounded by attrition—the latter have been attached longer and more highly organised.

Dr. Macartney continues,—

"When these moveable bodies are contained in joints, and are subjected to friction and pressure, they seem to be excited to a more rapid growth, and to change their original structure, by the conversion of the cartilaginous matter into bone. I have found them in the knee joint larger than a mulberry, and as rugged as it on the surface, from the unequal growth of bone; and, by macerating some of them, I have found the deposition of osseous matter to pervade their interior. I have likewise known them to sensibly diminish in a short time when kept perfectly at rest and free from irritation." 428.

We confess our scepticism on this latter point, and do not clearly perceive what Dr. Macartney's *proofs* can be. Whether the following case and the attendant remarks can be considered such, we leave to our readers to determine. For our own parts we confess that they are far from convincing. It is much more likely that the tissues of the joint should inflame and swell, than that the loose body should—much more likely that it should slip into some corner than that it should grow less. But to the case.

"A lady, who is now the most distinguished tragedian on the stage, had one of these loose cartilages formed in her knee joint. For some years its presence could only be ascertained by the effects it occasionally produced. When it slipped in between one of the condyles of the femur and the head of the tibia, the pain felt was acute and overcoming; and on one occasion she fell almost as suddenly as if she had been shot, and the whole joint became immediately inflamed. I directed Goulard's lotion to be *constantly* applied in the manner I have described under the name of water-dressing, and enjoined perfect rest, with an extended position of the limb. In a few days she recovered, with only a feel-

ing of weakness and insecurity in the joint, which gradually went off. An elastic knee-cap was ordered, and in the meantime she wore a bandage, which, impeding her movements, she incautiously left off. The second attack of this kind was less sudden and painful, but attended with more swelling of the joint. It was necessary to use leeches; and when the general tumefaction of the knee had subsided, the loose cartilage could be felt on the external side of the patella. It had grown so large that it could not have been received between the bones, and therefore did not produce the same symptoms as in the previous attack. By strict rest and water-dressing she recovered in about a fortnight, at which time the cartilage had diminished so much as to be scarcely discernible. Afterwards the patient wore an elastic knee-cap for upwards of two years, during which she felt no more annoyance from the complaint; when the knee-cap seeming no longer necessary, it was left off, and I believe she has continued well ever since. There are many cases in which persons have recovered with similar treatment; and in such cases it is generally supposed that the cartilage has been removed by absorption. I have related the previous case because it affords a good example, among others I have seen, of these substances increasing under inflammation, and diminishing (whether by means of the absorbents of the joints or not) when the irritation had been removed—a practical fact of importance in the treatment of cartilaginous deposits in joints.” 430.

The following is Dr. Macartney's theory.

“No author has given a satisfactory explanation of the origin of these substances, when they have not been connected with the synovial and serous membranes, nor of their increase and change of structure after that connexion is broken, supposing it had previously existed. It is said that Laennec and Bayle asserted that these bodies were at first deposited on the outside of the synovial capsule, through which they gradually made their way into the cavity of the joint. If such were the fact, it could hardly have escaped the observation of other pathologists; but even if we should admit this account to be correct with respect to the *origin* of the loose cartilages, it would throw no light on their subsequent development, after they had passed into the interior of the joint. It is manifest that they could not enter a joint when they had acquired the magnitude and the structure that we know they frequently possess; the joint in its natural state would not be able to receive them. The most curious part therefore of their history is the fact of their growth and conversion into bone independently of any communication with the surrounding parts by means of blood-vessels. It appears to me necessary to admit that they enjoy a separate vitality, that they are influenced by the circumstances in which they are placed, and that they can imbibe nutriment from the synovial fluid and the vapour of serous cavities. This opinion is corroborated by several analogous facts. For example, I have found a tumor of a spherical form floating about in the cavity of the abdomen, which bore on one side the appearance of having the peduncle by which it had been attached broken, and the ruptured part healed with a depressed cicatrix. I possessed also a specimen of ankylosed hip joint, in which a thin shell of the head of the femur had remained unabsorbed, and lay loose in the joint, probably in consequence of escaping pressure, as a process of bone had passed through a hole in its centre and served to conjoin the remaining portion of the head of the femur with the bottom of the acetabulum. This process of bone seemed to have been the round ligament ossified. I also had in my collection a preparation of an injured elbow joint, in which a portion of the external condyle of the humerus had been entirely broken off, and remained loose in the joint. The impression on my mind is, that it was also perfectly separated from all connexion with the soft parietes of the joint; and yet it had acquired a cartilaginous surface from rubbing against the ends of the other bones. This preparation, however, with

those that illustrate all the pathological facts I have mentioned, may now be consulted in the University of Cambridge.

The presence of synovia, and the friction and pressure that parts sustain in joints, seem to produce similar effects on different tissues. Portions of lymph, if shed into joints, soon assume the peculiar structure that characterises what are called the loose cartilages. When the ends of lacerated tendons project into joints, a number of knobs or hard bulbs are formed exactly of the same structure, and even nerves, passing naturally among tendons and in places where they receive pressure, assume the same hard dense nature, as may be seen where the median nerve enters the palm of the hand, and where the posterior tibial divides into the two plantar nerves. That very singular change which takes place on the ends of bones, when deprived of their natural cartilages, might as reasonably be supposed to come from a deposit from the synovia, as the secretion of ossific matter of such extraordinary density. I had a specimen of the shoulder joint, in which this porcelaneous or vitreous deposit had commenced, and appeared as if the surface was covered by a number of very minute portions of glass.

The different kinds and degrees of vitality which may exist in different isolated parts of the animal body constitute a subject of great interest and curiosity, which has not yet been fully investigated. The contents of various cysts seem to possess a distinct kind of existence, and undergo some changes in their interior arrangement. If my memory serve me, there is a preparation in the Hunterian Collection of an extra uterine foetus, which had been retained in a peritoneal cyst during many years, being converted in a considerable degree into bone. The most striking example of vitality existing in detached parts is displayed in the development of the egg during incubation, when new membranes, new organs, and all the parts of the perfect animal are spontaneously created out of a simple fluid, the albumen merely requiring the presence of the temperature that belongs to the interior of the perfect animal; for it would be a great error to suppose that heat could impart vital power, as, under the same condition, the unimpregnated egg undergoes the putrefactive fermentation.

The vitality of the blood itself, of which no sound physiologist can entertain a doubt, exists independently of any mechanical connexion with the solids of the body; and many of the actions which prove its vital nature are exhibited when it is withdrawn from its vessels, in which it might have received some sensitive influences. It seems not unreasonable to ascribe a degree of vitality to the variolous and vaccine virus, and indeed to all morbid poisons, even in a dried state, as their power of infecting is destroyed by some means which would affect their animal organization, but not necessarily alter their chemical elements. I am aware that some chemical physiologists will deny this; but I would ask such, what is the chemical difference between the fluids of the impregnated and unimpregnated egg? In fine, to determine the precise boundary where vital power ceases and the laws of unorganic matter commence, seems to be hardly possible, without more inquiry and experiment than have yet been applied to the subject; but I think we must admit that there are gradations in vital power, from the highest to the lowest, not only in the different orders of animals, but in the different solids and fluids entering into the composition of each individual." 434.

The quotation is a long one, but less would not do justice to the Doctor's views. A *fair* criticism on them must be longer still, and we cannot in conscience inflict *that* upon our readers. At the same time we must confess, that we think Dr. Macartney pushes his notions of "vitality" too far, or rather, he attributes to the vitality of a part too much of what

belongs to the vitality of the whole. We leave, however, Dr. Marcartney and our readers to settle it.

A CASE OF AMPUTATION OF THE GREATER PART OF THE LOWER JAW.
By A. T. S. DODD, Esq., Surgeon to the Infirmary, Chichester.

We notice this case in consequence of a peculiarity in the mode of operating.

Elizabeth Goble, aged 31, married, admitted into the Chichester Infirmary, March 5, 1839. About nine years ago she found a small immovable tumour on the middle of the left side of the lower jaw. When she first noticed it, it was about the size of a nut, not tender nor painful; it has gone on gradually increasing up to the present time, but has grown much more rapidly during the last five years than it did before. Five years ago it was about the size of a walnut; during the last six months it has spread from the symphysis to the submental foramen of the right side of the lower jaw, appearing just in front of the left ear, and reaching round to the right submental foramen; it is lobulated, or rather encysted, and appears to contain a considerable quantity of fluid; she has no pain or tenderness in any part. She had lost several of the teeth of this side three or four years before she found the little swelling first mentioned. The last molar is now bent nearly horizontally inwards by the disease, and the two left incisors are lifted from the sockets, and pushed towards the right side. The healthy structure of the jaw can be felt only on a small part of the ascending ramus and angle; all the rest is enlarged and fluctuating, and may be handled any where without pain, and even the teeth may be removed without suffering. She can open and shut the mouth without any great inconvenience, and can masticate tolerably well with the right side of the jaw. The swelling projected forward so much as to separate the lip from the teeth considerably, and was here, in the situation of the external gum, covered by so thin an integument as to assume somewhat the appearance of a ranula but for its exact situation. This part of the tumour, on being punctured, yielded a straw-coloured, viscid, transparent fluid, evidently contained in a separate cyst, as the puncture emptied only a small part of the tumor. The integument of the cheek was perfectly sound; health good; catamenia regular. It was now evident that the disease consisted of encysted cavities, occupying and destroying the structure of the whole left side of the jaw; that the upper jaw was not implicated; that there were no enlarged glands in the neighbourhood; that the health was good, and the boundaries of the disease well defined.

Mr. Dodd determined to remove the disease, preserving as much of the jaw as possible. The following is the description of the operation:—

“The patient being seated in a chair, and the head supported, an incision was made from nearly opposite the articulation of the jaw to the angle; from thence along the horizontal ramus to the symphysis. The flap of the cheek thus formed, was then reflected upwards over the tumour; the mouth was then opened at the junction of the gum with the jaws, opposite the canine tooth; the gum was freely divided from before to behind, and the entire cheek turned back; in like manner

The tongue was separated from the jaw, by division of the inner gum from about an inch to the left of the symphysis, as far back as the angle. The jaw was now divided through the mass of disease in the situation of the left canine tooth, partly by the knife, and partly by shears: but the bony structure was so attenuated by pressure of the cysts, that it was not thicker than cardboard, and was therefore readily cut through. Now taking the horizontal branch of the jaw in my hand, and having with the other separated the tongue from it as far back as the coronoid process, I endeavoured, by depressing the jaw upon the neck of the patient, to bring the process forward, that I might the more readily divide the temporal muscle at its insertion. I found however that the attenuated bone was so flexible throughout, that this was impossible; I therefore cut upon the coronoid process, which was enlarged and occupied by a cyst to the very tip; it readily yielded to the knife, being only of the consistence of tough membranes; I divided it across, and afterwards with the scissors and forceps removed the lip from under the zygomatic arch. The flexible state of the ascending ramus also prevented my throwing the head of the bone forwards from the glenoid cavity as I intended; I therefore cut down to the anterior part of the articulation, and then, fearing to pass my knife round the head of the bone from before to behind, in the immediate neighbourhood of the large vessels, I lifted the whole portion of the jaw up, and, drawing it steadily forwards and upwards, I divided from behind the pterygoid muscles, and then opening the articulation at the back part, readily passed the knife through it, from behind forwards, and thus completed the dissection. I now tied the facial artery, which was the only one that then bled, and proceeded to remove the diseased symphysis; this was readily done by dissecting off the integuments in front, dividing the muscles of the tongue behind, and then sawing through the bone near the right submental foramen. The canine and lateral incisor teeth of this (the right) side had been extracted before the operation commenced. The patient bore the operation, which lasted about forty-five minutes, with remarkable fortitude. She lost very little blood; several arteries gushed out on their division, and one large vein while opening the articulation; but the hæmorrhage was commanded by pressure of the finger at the time; and after she was put to bed only two ligatures more were required. Eight sutures were applied in the course of the wound, about four hours after she was put to bed, and the parts were supported with a compress and plaster." 439.

The patient did perfectly well, and we need not pursue the after details. We quote Mr. Dodd's observations on the mode of operating he adopted.

"It was necessity, and not my own choice, which led me to adopt the plan of opening the joint from behind; I intended, in planning the operation, to follow the mode recommended by Mr. Liston. The very flexible state of the ascending ramus prevented however any attempt at throwing the condyle forward; but I found the plan of drawing the whole portion of the jaw forwards and upwards, and passing the knife from behind to before, so very feasible, and, as it appears to me, so much more likely to escape the danger of wounding the great vessels in the neighbourhood than by disarticulating from the front, that I confess I am rather at a loss to know why preference is given to this latter method by so experienced a surgeon as Mr. Liston. As it was, I found that the knife actually exposed the sheath of the carotid vessels; and it appears to me to be much more easy to avoid them by dissecting from below upwards, with the jaw drawn forwards, than by turning the knife round the head of the bone from the front of the joint, and so, in passing it downwards, separating the ramus from these important vessels.

Thirdly, I divided the jaw in two places: first at the situation of the left submental foramen, through the disease itself; and afterwards at the same point on the right side, thus making two stages of the operation, and removing the sym-

physis after the disarticulation of the jaw had been accomplished. This proceeding I adopted in consequence of the caution given by Mr. Liston (whom I consider the highest authority we possess on this subject) against the danger of the retraction of the tongue upon the division of the muscles which attach it to the symphysis of the jaw. He considers that there is more danger and embarrassment to be expected from this part of the operation than from any other. The detachment of the anterior belly of the digastric, of the genio-hyoid, and genio-hyo-glossi muscles is apt to be followed, unless great precautions are taken, by retraction of the os hyoides and tongue, and a sudden interruption of respiration. With these dangers in view, I avoided them till the very last, by following the plan above mentioned, and thus leaving the division of the muscles of the tongue till the very last stage of the operation. By this plan the operation was somewhat lengthened, but it was rendered more secure. I must however add that when the muscles in question were divided, no retraction of the tongue took place, nor had we any difficulty of the kind afterwards. Whether such accident would have occurred if the muscles had been cut through in the early stage of the operation, and the tongue had been thus left unsupported during the whole of this trying period, cannot now be decided certainly; at any rate it is more than probable, and I consider myself quite borne out in the proceeding which I adopted by the experience of so eminent a surgeon as Mr. Liston, and even by the avoidance of a probable danger so important as that in question." 443.

Mr. Dodd ranks high as an operating surgeon, and this case redounds to his credit.

CASES OF ABSCESS FORMING WITHIN THE PELVIS AFTER LABOUR, WITH OBSERVATIONS. By THOMAS W. WAINWRIGHT, Esq. Surgeon to the Liverpool Northern Hospital.

Mr. Wainwright observes that his attention was drawn to this subject many years ago by the late Henry Park. His observation was as follows:—"In the course of my practice I have met with several instances of abscess forming in the cellular texture of the pelvis after labour; the thigh becomes flexed upon the pelvis, and the matter at length is discharged, sometimes at the groin, and sometimes near the anus, and at others above the spine of the ilium. They are very distressing cases, and seem almost hopeless; but the great majority of them, notwithstanding, get well. I am sure the subject deserves more attention from the profession than it has yet received, and I hope some one will give it."

Mr. Wainwright relates seven cases. Three will sufficiently illustrate, we think, the affection.

Case 1.—Mrs. W., æt. 24, was confined of her first child February 8th, 1835; nothing particular occurred during the labour; but a few days afterwards she became, as it is termed, "excessively nervous." She took a great dislike to her nurse, and at length could not endure her presence. Six weeks passed in this way, and her nervous symptoms began to subside. Then she complained of severe pain in the right groin, extending along the fore part of the thigh; in two weeks more the thigh became flexed on the pelvis nearly at a right angle, the bowels were much constipated, she had copious perspirations, and became much emaciated. In this state she

was conveyed to Liverpool in April. The tenderness in the groin was excessive, and she would scarcely allow the slightest examination; a tumour however was easily felt, deeply seated between the groin and pubis; the motions were observed at this time to be almost white. Blue-pill and extract of henbane were given at night, mild aperient injections were administered each morning, and the diet strictly attended to; depletion was not considered desirable in her debilitated state. The secretions improved under this treatment; the pain was also relieved, and the thigh became less flexed, and the tumefaction remained as before.

The patient now resolved to go to the Isle of Man, where a temporary improvement took place; but the symptoms soon became worse, and she returned to Liverpool in June. She was then in a distressing state; more emaciated from constant pain and frequent perspiration; the swelling greatly enlarged, and, having advanced to the median line, it felt in form exactly like the distended bladder. She complained of a sense of fulness at the anus; and on examination, *per anum*, the cavity of the pelvis appeared filled up with some kind of tumor. Next morning "something" passed with the urine "all at once." It was a large quantity of pus. The tumor was much diminished in size, and she was greatly relieved. This occurred on the 30th of June. Matter continued to flow involuntarily from the vagina for about a fortnight, whilst the urine passed unmixed as usual, so that it was evident an abscess had opened into the vagina. The limb gradually recovered itself, her general health rallied, and in six weeks from the bursting of the abscess the catamenia reappeared for the first time since her labour. She was again confined in July, 1837, and also in April, 1839, recovering each time remarkably well.

Case 2.—Mrs. R. æt. 29, was confined of her first child January 14th, 1839; the labour lasted twenty-four hours, and was severe; the child was large and was born dead; the placenta separated naturally. All appeared likely to do well during the greater part of the first three days; the secretion of milk was abundant, but the lochia rather deficient in quantity, and somewhat purulent in appearance, but without any offensive odour. On the third day she had rigor, and this was followed by fever, pain in the head, occasional delirium, diminution of the above secretions, and pain in the left iliac region. Venæsection and leeches were employed with relief to the general symptoms, but the pain in the iliac region remained as before and resisted every treatment. She soon experienced great difficulty of motion; if she attempted to walk the body was bent forward, and every effort to place herself in an erect position caused great suffering; but the thigh was not obliged to be kept constantly flexed on the pelvis. About eight weeks after her confinement she perceived a uniform swelling above Poupart's ligament; this gradually increased, and was accompanied with a sense of numbness of the whole limb, but no swelling of it. A fortnight after this the tumor was opened, and a large bleeding mass full of matter was evacuated. She was now extremely reduced in strength, and greatly emaciated; had profuse perspirations, and had suffered several attacks of diarrhœa. The discharge was very copious for some time, but gradually ceased in about six weeks. Her health began

to improve from the period when the matter was evacuated, and has since remained very good.

The remaining case that we shall insert was a fatal one.

Case 3.—Ellen Clements, æt. 22. May 21, 1835.—This patient is in a very emaciated state. She has a fulness in the right iliac region, which is painful on pressure, and the pain extends towards the lumbar region; the thigh is somewhat flexed on the pelvis. She has a discharge from the vagina, like healthy pus in appearance, but horribly offensive in smell. By the use of the speculum this matter is seen to flow through the os uteri. It appears that about two months ago she was confined of her second child. The labour was natural, and of short duration; but the accoucheur informed her that a portion of the placenta remained, and would ere long come away. Ever since the labour an extremely offensive discharge has continued to pass from the vagina. Leeches, blisters, &c., were applied to the iliac region, and a weak solution of chloride of soda, in warm water, was used as an injection, at first into the vagina only, but afterwards into the cavity of the uterus. The vaginal discharge seemed checked, but it was soon discovered that the pain and the iliac tumor were increased in proportion; and, on the other hand, that when the discharge was more copious from the vagina, the tumor and her sufferings were diminished together; the injection was therefore abandoned. She gradually became weaker and weaker, her appetite failed, and she died July 10th. Mr. Long diagnosed that abscess existed in the iliac fossa, and that a communication would be found within the cavity of the uterus.

On dissection, a large collection of dark-coloured pus lay beneath the peritoneum directly upon and below the iliacus internus muscle; its investing fascia was almost entirely destroyed; the muscle itself was of a dark, almost black colour. *Upwards*, the matter had passed along the psoas muscle, as far as the third lumbar vertebra, laying bare the two inferior transverse processes. *Downwards*, it had got among the muscles on the upper and fore-part of the thigh; it encircled the hip-joint, and had penetrated the capsular ligament. The cartilages, synovial membrane, and ligamentum teres, were nearly destroyed. The matter also passed round to the dorsum of the ilium, from thence over the crest, and thus communicated with the abscess in the venter; the periosteum covering both sides of the ilium was as easily detached as from a bone subjected to maceration. *Inwards*, the matter had completely dissected the anterior crural nerve, psoas muscle, and the crural vessels; and beneath these it had passed into an irregular filthy cavity, one inch and a half in diameter, formed by the uterus and the side of the pelvis. From this cavity, a round opening, sufficient to admit a crow quill, penetrated the uterus about three-quarters of an inch above the os tincæ, and conveyed the matter into the cavity of the uterus, and from thence it had passed into the vagina. The nerves were firm in texture, though brown in colour, being bathed in dark-coloured pus. The external iliac artery and vein were firmly united together, and surrounded by a brown substance, probably the cellular tissue infiltrated with pus. The uterus was of a dark venous colour, but of the natural size. The inner surface, near the fundus, presented a small white spot, to which it was supposed the placenta had

adhered. The right sacro-iliac synchondrosis was separated sufficiently to admit a sixpence, and also to allow a slight motion ; but no appearance of inflammation or of suppuration could be seen at this point. The other synchondrosis and the symphysis pubis were carefully examined and found healthy.

These cases are worthy the attention of our readers.

CASES ILLUSTRATIVE OF THE PATHOLOGY OF BILIARY CONCRETIONS.
By **GEORGE MALLETT, Esq.** Surgeon, Bolton-le-Moors.

Mr. Mallett relates three interesting cases of gall-stones. We are sorry that we have not room for more than a notice of the post-mortem examination of one. It shews a gall-stone imbedded in the pancreas.

There was an ulcerated opening through the coats of the gall-bladder, communicating with an abscess beneath the concave surface of the liver, which contained about six ounces of pus. The ulceration was evidently caused by the irritation of a moderate-sized gall stone, which was found near the opening, but still within the bladder. Upon examining the other organs, all were found in their natural condition with the exception of the pancreas, which contained a hard encysted body, and which proved to be a gall-stone about three-quarters of an inch in diameter. The pancreas was not found either in appearance or structure altered ; and the concretion must have been imbedded there for some time, as no trace of its passage could be discovered. Thus, then, was explained the cause of his sufferings some years previously, and their cessation till another gall-stone had formed, and then expulsion in a similar way was attempted ; but inflammation, abscess, and death, were the consequences.

A REPORT OF THE OUT-PATIENTS ATTENDED BY F. RYLAND, Esq., AT THE BIRMINGHAM TOWN INFIRMARY, between the 25th Dec. 1837, and the 12th Dec. 1839.

We regret the following announcement :

“ The present report contains the result of parochial practice for nearly two years, viz., from the 25th of December, 1837, to the 12th of December, 1839 ; at which latter period I resigned the appointment of Surgeon to the Birmingham Town Infirmary.” 481.

Mr. Ryland has placed the tabular reports for two years side by side, in order to shew the great resemblance that one year bears to another in the numbers that are attacked by such diseases as owe their origin to the season, to occupation, habits of life, or accidental circumstances, and the disparity which exists between the numbers affected in each year by the epidemic and contagious diseases. Hooping-cough, which at first sight appears to offer an exception to this remark, does not do so in reality ; for though the numbers in each year attacked by this disease approach to an equality, this is owing to our having in the table the rise and declension of a single epidemic, which commenced in the second quarter of 1838,

continued through the autumn and winter, and disappeared in the summer quarter of 1839. In 1838, there were fifty-two cases of small-pox; in 1839, only three; whilst of scarlatina, in 1838, there were three cases only, and in the following year thirty-two.

The cases of rubeola were, for the whole six years, two hundred and two in number, and the deaths thirty-six, being about one in five and a half. The number of cases of scarlatina was two hundred and thirty-eight; of deaths, thirty-three, or one in seven and a quarter. The cases of variola numbered one hundred and seventy-nine; the deaths from this disease were thirty-six, or one in five.

It appears therefore that scarlatina occurs rather more frequently in Birmingham than measles, and the latter more frequently than small-pox; and that the rate of mortality of these three diseases is in an inverse ratio with their frequency. The prevalence of measles as an epidemic, in 1834 and 1836, is well shown in the table. The moderate continuance and harmless nature of scarlatina in 1834 contrast well with its great prevalence and increased mortality in the latter part of 1835 and in the beginning of 1836. The same disease is seen to have occurred in a sporadic form in 1837 and 1838, and to have again become epidemic towards the close of 1839. It has since produced great ravages in Birmingham. Variola was prevalent and very fatal in the first half of 1834, after which it subsided for several months; it re-appeared at the close of 1835, and continued, with moderate frequency, till the end of 1838, since which time there have been scarcely any cases of this disease.

The *measles* of the latter part of 1839, though the cases were neither numerous nor fatal, was marked by some peculiar features, which were attributable in all probability to the long continuance of cold and damp weather during the summer and autumn of that year. The cases, thirty in number, all occurred in September, October, and November. The earlier cases were simple in their nature, and soon recovered; but about the middle of October it was observed that the catarrhal symptoms attendant upon the attack of measles were of an especially severe nature. The secretion from the nose was great and most acrid in its character, occasionally mixed with blood, and causing much excoriation in the neighbourhood of the nostrils. The mucous membrane of the mouth also inflamed and ulcerated, and the tonsils partook largely of the inflammation; the submaxillary and cervical glands became swelled in some instances to such a degree as seriously to impede respiration and deglutition. In two of the fatal cases the measles were complicated with asthenic bronchitis, which however appeared to yield to stimulating expectorants, counter irritation, and good food, but the mucous membrane of the mouth, in both instances, became extensively ulcerated, the gums separated from the teeth and from the alveolar processes; the submaxillary glands and the surrounding tissues swelled so much as to render the chin scarcely discernible, and death took place about the fourteenth day. The other fatal case was similar in its result, but much more rapid in its course. The patient, a boy, æt. 2, broke out with measles on the 2nd of November. The eruption was well marked, and the catarrhal symptoms severe. On the 4th there was acrid discharge from the nostrils, with aphthous ulcerations about the inside of the lips and edges of the tongue. The submaxillary glands were enlarged

to such a degree that the neck was almost continuous with the cheeks, and the chin was undiscoverable; respiration was slightly impeded, hard cough, and great difficulty of swallowing. The child died on the 5th, (the fourth day of the disease,) apparently exhausted, without evincing any sign of suffocation. Permission to examine the body could not be obtained.

The glandular swellings generally yield to the application of leeches, fomentations, and poultices; in two or three instances they terminated in abscess. In the scarlatina of the present winter similar glandular swellings have been present in almost every case.

Two of the cases of measles were complicated with inflammation of the trachea. In the first, a stout lad between two and three years old, the eruption was preceded more than two days by severe croupal symptoms, which required bleeding and strong doses of calomel and tartarised antimony for their removal. When the measles were fully developed, the croupal affection became much better; but as the boy had taken in the two days more than fifty grains of calomel and five grains of tartarized antimony, some of the amelioration that took place may safely be ascribed to the medicine. Mr. Ryland, however, has often noticed in these cases that the appearance of the rubeolar eruption is followed by amendment in the croupal symptoms. This boy was convalescent on the seventh day, and soon recovered completely. The other case was a girl, seven years of age, residing in the same court. The measles and the tracheitis commenced together after slight precursory illness of seven days' duration; the full development of the eruption was neither beneficial nor otherwise to the croupal attack in this case. Leeches applied along the sides of the trachea, and small doses of calomel and antimony soon relieved the urgent symptoms; general bronchitis succeeded to the tracheitis, and the girl ultimately got completely well.

Scarlatina was rather prevalent during the last quarter of 1839; but, relatively considered, it was not very fatal in its effects. Three instances of death from this disease are recorded; one from malignant cynanche in combination with scarlatina; the second from head affection, and the third from a cachectic condition induced by the fever; the cornea of the left eye sloughed, the umbilicus was implicated in a large sloughy ulceration, the nates also sloughed, and the child died between three and four weeks from the time of seizure.

Fever was not so prevalent in 1839 as in the previous year, nor was it quite so fatal in its effects: its character was in many instances, and particularly in certain localities, typhoid, and two of the children who died of this disease had gangrenous inflammation of the mouth and necrosis of the upper jaw.

Inflammatory affections of the mucous and serous membranes were less frequent in their occurrence in 1839 than in the preceding year, and both absolutely and relatively were less fatal.

The deaths from carcinoma, phthisis, and scrofula, in 1838, were seventeen, bearing a proportion to the whole number of deaths in that year of about one to five. In 1839, the deaths from the same three diseases amounted to twenty-five, which was more than one-third of the total number of deaths for that year. Of the forty-two deaths from these

causes, twenty were males, all of whom died of phthisis. Of the twenty-two females, fourteen died of phthisis, six of carcinoma of the uterus and mamma, and two of scrofula.

Some other remarks and several tables will repay perusal.

A REPORT OF THE CASES ATTENDED AT THE BIRMINGHAM EYE INFIRMARY, During the Years 1838 and 1839. By RICHARD MIDDLEMORE, Esq., Surgeon to the Infirmary.

1. *Case in which an Operation for Artificial Pupil was performed on an Eye previously affected with Staphyloma of the Cornea.*

"In the sixth volume of the *Transactions* I related the case of James Shephard, who became my patient at the Eye Infirmary, after having left the Birmingham Hospital, into which he had been admitted in consequence of a severe accident which had seriously injured his face and eyes. When I first saw him, the *right* eye was entirely collapsed. More than half the lower portion of the *left* cornea was extremely opaque and prominently staphylomatous, the pupil was almost entirely obliterated, and the iris extensively adherent to the upper margin of the staphyloma. The mode of treatment employed for the cure of the staphyloma consisted in the repeated tapping of the part by means of a fine iris-knife; it being evident that excision or any similar mode of cure would have unfitted the eye for the performance of an operation for artificial pupil, which presented the only chance of restoring to the patient any degree of vision. On the cure of the staphyloma, the patient being still blind, was persuaded to go to the Bristol Asylum, where he was taught to make baskets. He remained there until June, 1839, when he returned to Birmingham, and called upon me, expressing a strong wish to have an operation performed. On this occasion he was led to my house by a little child, being unable to find his way, without assistance, about the streets of the town in which he had lived many years." 501.

At this time *more than one-half* of the cornea, at its lower part, was densely opaque, the pupil nearly obliterated, the iris extensively adherent to the opaque cornea; but, from the slight glance of an exceedingly minute pupil which it was just possible to obtain, by looking downwards as the patient sat on a low seat, it was ascertained that the lens and its capsule were transparent.

"*Operation.*—August 6th, 1839. Present Mr. Jones and Mr. Clarke.—Raising the upper lid without pressing upon the eye-ball, I made a small section of the cornea at its superior part, through which I introduced a fine iris hook, and very cautiously drew out a portion of iris, which, as I could not excise it with the curved scissors without a risk of touching the capsule or dislocating the lens, I left to be strangulated between the lips of the incision of the cornea. The iris bled a good deal after the operation; but by keeping the patient quiet in bed, and by the adoption of various antiphlogistic measures, the effused blood was absorbed, acute inflammation was prevented, and the patient's vision so far restored that he has this day read to me, with tolerable ease, and without glasses, a portion of the former part of his case published in the sixth volume of the *Transactions*. The pupil I have made has a smooth margin, being formed, not by excising a portion of iris, but by detaching its pupillary margin from the staphylomatous cornea, to which it was extensively adherent; it is of good size, being neither very large nor unusually small; it is somewhat oval in shape, and extends from the upper border of the staphyloma nearly to the corneal margin at its superior part, where I made the incision."

Mr. Middlemore has received and merits great praise for this proceeding.

2. *Ossification of the Lens.*

The patient is David Phillips, a silk dyer, aged 45. About sixteen years ago he received a blow upon the left eye from a piece of turnip, which was purposely thrown at him. The eye was a good deal inflamed soon afterwards, and required treatment, which had the effect of relieving, and, as he then thought, of curing him. About a year afterwards his friends perceived a *speck* in the eye; at this time his vision was impaired, and was soon entirely lost. Lately the sight of the *right* eye has become dim, and on this account, as well as on account of the state of the *left* eye, he came to the Infirmary.

State of the right eye.—Pupil rather larger than natural; movements of the iris sluggish; vision by no means perfect.

State of the left eye.—A solid body is situated in front of the iris, in which are seen a number of densely white lines, radiating from its centre to its circumference. It has the shape and size of the crystalline lens. The eye is scarcely at all inflamed, but he says it feels very uncomfortable.

With Beer's knife, Mr. Middlemore divided the lower part of the cornea quite as freely as in an ordinary operation of extraction, and in a few minutes, on making slight pressure upon the eye-ball, the ossified lens passed through the opening. In a fortnight the patient was able to return home. The pupil is circular and clear, the wound united, and vision slightly improved. The lens is ossified throughout the whole of its texture, it is of its ordinary size and shape, has a radiated appearance, and is of a dirty white color.

3. *Case in which one Eye was extremely Large from Birth.*

James Bembridge, æt. 4. Left eye of ordinary size and dark colour.

Right eye.—The cornea is nearly double the size of that of the left eye; the anterior chamber amazingly ample, so as to equal in size an extreme case of dropsy of the anterior chamber. The pupil is large, and sluggish in its action. The cavity containing the vitreous humour is as large in proportion as that containing the aqueous humour. At the upper part of the cornea, and along its margin, there is a peculiar nebulous appearance, as though the cornea was seen through the conjunctiva, which was prolonged upon its surface, so as somewhat to overlap its margin. The boy has scarcely any sight with this eye; it is however free from inflammation, and by no means very painful. The lids are projected by the large globe; sometimes the right eye is rendered a little uncomfortable, and the appearance of the child is peculiarly disagreeable.

"I have lately," observes Mr. M. "seen a similar state of eye in a patient attended by Mr. Royston, of Redditch. In this, as well as in Bembridge's case, I have recommended that nothing should be done unless the globe should continue to enlarge, unless it should give rise to irritation of the opposite eye, or unless the subject of the affection should after a time be anxious for an operation on the ground of personal appearance. I have in several such instances evacuated the aqueous humour with a fine cataract needle or iris knife, and in this way prevented the disease from increasing. In one instance I excised a small portion

of the centre of the cornea, and with the effect of much lessening the size of the globe, but not of producing its diminution sufficiently to allow of the patient's wearing an artificial eye." 506.

4. *Tumor situated at the Cornea-Sclerotic Junction.*

Mr. Middlemore relates two cases. We shall insert one.

Case.—"William Davis, æt. 25, has a small tumor, about half the size of a pea, situated partly upon the cornea and partly upon the sclerotica, or to speak more correctly, it appears to supersede a portion of the membranes, whose place and situation it occupies. It is of a dirty white colour, convex externally, of a firm texture, and apparently covered by conjunctiva, which cannot however be moved upon its surface. The tumor has existed from birth, and does not, he says, increase in size. He came to me, at the infirmary, in consequence of the irritation produced by a few hairs which grew from a slight depression at the centre of the little tumor. These hairs are curved like the eye-lashes, are of the same colour, about the same length, but are scarcely so strong. The presence of the hairs was first pointed out to him by a friend about a year ago; and even now they excite scarcely any irritation, except when the longest of them reposes on the cornea. On the extraction of the hairs all irritation subsided. I have requested him to procure a proper pair of forceps, and to remove them for himself whenever they are sufficiently long to occasion him any inconvenience." 507.

Mr. Middlemore remarks:—"This is an extremely unusual defect. I have many times seen a tumor similar to that in the eye of Wm. Davis, (whose case has been just related,) which is of a dirty-white colour; and I have also seen tumors of a red colour, and possessing a granular surface, somewhat like a small mulberry; but it has rarely fallen to my lot to notice a disease such as exists in this instance. And here I may remark that in no instance which has fallen under my observation has the disease existed in both eyes. I believe that in cases like the present we had better not interfere, at least with a view of removing the mere personal defect about which parents are generally very anxious. They seldom give rise to much inconvenience, or increase in any material degree. In one instance, somewhat similar to this, an attempt was made by a surgeon to remove the disease by shaving the prominence it occasioned down to the level of surrounding parts, and the result of this improper proceeding was suppuration of the eye-ball."

5. *Large Tumor produced by the Escape of the Vitreous Humour beneath the Conjunctiva.*

Joseph Hill, æt. 19, received a blow upon the eye about six years ago, on account of which he applied to a surgeon, who, after the lapse of several weeks, succeeded in removing the inflammation excited by the injury, but was unable to preserve the sight of the eye. About two months ago he received a slight injury of the same eye, which produced a small swelling, which has rapidly increased until it has acquired its present size.

State of the eye.—Cornea slightly opaque, particularly at its temporal side; pupil closed. At the outer side of the cornea there is a tumor as large as a good-sized walnut, which evidently contains fluid.

Mr. M. introduced a fine cataract needle into the swelling, discharged a quantity of thin pale yellowish fluid, and then directed the patient to

close the lids, upon which he passed a fine roller so as to prevent them from being opened, and requested him to keep the part quiet for a few days, to take a little aperient medicine, and confine himself to low diet. In a few weeks the eye was pretty much in the condition it had been in previously to the last injury.

6. A curious case is related, in which a *piece of tobacco-pipe, one inch and three-eighths long*, was impacted in the orbit, and sneezed out. Vision of the eye was lost, although the eye-ball was not wounded.

7. *Partial Dislocation of the Lens through a Rent in the Sclerotica.*

Sarah Hanson, æt. 55, received a blow upon the eye whilst breaking a stick.

State of the eye two days after the occurrence of the accident.—Small tumor at the nasal side of the sclerotica, a little behind its junction with the cornea, which is covered by the conjunctiva. The pupil is drawn in the direction of the tumour as though a portion of the iris were absorbed. One part of the margin of the lens is seen to occupy a great portion of the pupil, the other is placed behind the corneo-sclerotic junction, and is covered by the conjunctiva, which is of a dark-red colour, from the effects of the recent contusion.

Operation.—Lens readily removed by a free division of the conjunctiva.

After-treatment.—A light roller was passed around the lids, which were carefully closed. The patient was directed to keep her bed, and to take a little aperient medicine. No severe inflammation occurred after the operation; and, in the course of a few weeks, there was the following entry—"Cornea clear, pupil a little drawn towards the lacerated opening in the sclerotica, vision extremely imperfect."

8. *A Piece of Steel in the Anterior Chamber in Contact with the Iris.*

"John Pugh, æt. 32, tool-maker. Whilst at work, a portion of hard steel was detached from a punch, and forcibly struck his left eye. Two days afterwards he called upon me, when I made the following notes of his case :—"Pupil clear, but contracted; its mobility somewhat impaired; iris dull and in a state of inflammation; at its temporal side and in its anterior surface a small portion of metallic-looking substance may be perceived, which he tells me is a portion of hard steel detached from a punch with which he was working."

Treatment.—Bleeding, mercury to the production of moderate pyalism, cooling lotions, and low diet.

Result.—After remaining on the books little more than a fortnight he was discharged, his eye being quite well, with directions to return if a relapse of inflammation should take place.

The metal is still to be seen in contact with the iris, but his vision is as good as it was prior to the accident. The only difference of any sort which can be perceived is, that when the pupil is expanded that portion of the iris with which the metal is in contact (the anterior surface and temporal side of the iris) appears to be paralysed, so that the pupil possesses a shape very much like the letter D.

This is another instance exhibiting the good effects of making no effort

to remove a foreign body by a surgical operation, when it has completely passed into the anterior chamber.

SUGGESTIONS AS TO A FORM OF REGISTER FOR HOSPITALS, DISPENSARIES,
AND PRIVATE PRACTICE. By CHARLES COWAN, M.D.

We quite agree with Dr. Cowan on the value, nay necessity, of an accurate registry of cases. Medicine would be greatly improved were such general and uniform in private practice as in public.

Dr. Cowan suggests that the size of the register, when open, should not be less than from thirty to thirty-two inches across, and the depth of the page about twelve. This, including the printed headings on the top, will admit of the insertion of eighteen cases on lines six-tenths of an inch apart. The paper should be strong, and ruled in red ink, and the book thick in proportion to the wants of the institution, and adapted for at least two years' registration, to avoid expense. Separate books should be provided for the physicians and surgeons, and also for the in and out-patients. If two physicians or surgeons attend on the same day, each officer ought to have his own book. The cases should be registered invariably at the time of admission, and every thing inserted which can be then ascertained. In dispensaries of limited extent, a single register might prove sufficient.

We shall now make a few remarks on the use of the register.

A simple inspection will show that many of the columns require only a mark (1), as those for *age, sex, married, single, recovered, made in or out-patient*, and they follow each other in a convenient and natural succession. The "*number of days on books*" is the interval between the date of admission and date of discharge; and the "*total duration*" consists of the addition of the two columns immediately preceding it. Except when the diagnosis is not doubtful, it is better to insert it when the patient is discharged. The usual single column of "*result*" has, it will be seen, been divided into several, for the purpose of accuracy and easy revision. "*Incurable*" includes all cases evidently hopeless; these may be also marked as "*relieved*" or "*left sick*," if not benefitted. "*Convalescent*" should be restricted to such cases as are fully expected to recover. "*Irregular*" includes all cases where the result is unknown. "*Cause of death*" is intended for instances where the fatal result is depending on accidental causes; the use of it is to make the estimate of the mortality more accurate. "*Made in or out-patient*" is an important point to notice, the same patients being frequently counted twice over in reports. "*Treatment*:" this column is optional, but should always contain a statement of any surgical operation. "*Observations*:" this is also optional, but may be used to give an outline of the case, or to refer to any particular point of interest; or the space may be occupied by any other fact which the observer may wish to notice. The "*state of health*" of the patient at the time of admission would be a useful detail; and there are other points which might be also recorded, but which had better be left to the zeal and sagacity of individuals.

Dr. Cowan also suggests a common nomenclature for disease—and he recommends that of Mr. Farr.

The following are the headings we recommend, with the spaces of course proportioned to the nature of the fact, and the size of the book:—

RIGHT HAND SIDE.

No.	Name.	Age.	Sex.		Married.	Single.	Residence.	Occupation.	Date of admission.	Date of discharge.	No. of days on books.	Anterior duration.	Total duration.	Disease.
1	John Cooper	20	1	..	..	1	Reading	Smith.	Jan. 1	June 21	20	10	30	Bronchitis.

LEFT HAND SIDE.

..	Recovered.	..	Relieved.	1	Convalescent.	..	Left sick.	..	Incurable.	..	Irregular.	..	Died.	Cause of death.	Made in or out-patient.	Treatment.	Observations.	Medical attendant.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	Mercury, local depletion	.....	Dr. Cowan

" Before concluding this part of our subject we would submit the following form of headings for cases, which is rather more convenient than the one we previously proposed. The remainder of the sheet is to be divided by a central line, one side for observations, the other for treatment. When bound, they form a convenient case book, and when separate are well adapted for dispensary practice. Patients attending the institution should leave them on the spot, and if seen at home should always have them ready for the medical attendant. If kept distinct for each medical officer, and filed as the patient is discharged, no confusion would result. The convenience of the practice is great, saving trouble and assisting the memory.

Name	No.	Age	State
Occupation	Residence		
Anterior duration	Admitted	Discharged	Days treated
Cause	Hereditary	Result	
Diagnosis			
Observations			

This register may with very slight alterations, be adapted for private use. For this purpose it is only necessary to devote the left hand page, after the last column for result, to " treatment" and " observations."

THE CYCLOPÆDIA OF PRACTICAL SURGERY. Edited by *Wm. B. Costello, M.D.* Illustrated with numerous Engravings and Wood-cuts.

SINCE our last notice of this work, two additional Parts have appeared, and the first volume, containing nearly 900 pages, has been completed. After the long suspension of its progress, which had necessarily awakened fears as to its continuance, it is satisfactory to see it now advancing at a steady pace, and maintaining the interest which its early parts had created. The editor has had to bear blame, perhaps unjustly, for not having kept time with the public—there must in such cases, be some scape-goat—but after all, the real delinquents are those who get off scot-free; we mean the contributors, who feel no compunction whatever for breach of promise to the editor, who is thus compelled in a work alphabetically arranged to disappoint his readers. Delay or disappointment in an undertaking of this magnitude is always detrimental, and should be avoided, if possible; a serious responsibility therefore rests with those, be they few or many, who mar the efforts of their fellow-labourers, by not completing at the appointed time the tasks they had undertaken, and no excellence of performance will be a sufficient compensation to them or to the public for such culpable remissness. The editorial duties, when conscientiously discharged, as they have been in the present instance, are sufficiently painful and laborious of themselves, and ought not to be aggravated by the failures of contributors on the one hand, which lead necessarily to the discontenting and estranging of patrons on the other.

The work itself has not disappointed the expectations of the profession. It is not made up of a series of dissertations, with here and there one by an able hand, shedding its brilliancy and light over a dull blank of monotonous mediocrity—an oasis in the waste. There is an uniformity, a substance, a completeness, a power and tone throughout, creditable not alone to the individual writers, but to the time and country in which we live. The *Cyclopædia of Practical Surgery* may not only challenge, but will advantageously sustain comparison with any other similar work of other countries, and if we infer the extent and superiority of the education of the surgeons of this country as a body, from the high character of the work before us, considering it as a book of reference prepared for them expressly, we cannot but rejoice at the changes which have been brought about within the last quarter of a century.

Part VII. commences with the continuation of Cancer, an article so ably drawn up as fully to justify, in our opinion, the high eulogy of Dr. Warren, of Boston, "the ablest treatise on cancer that ever was written." We shall not, however, re-open this subject. Its author, Dr. Walshe, has begun to reap his laurels, having, within a few weeks, been appointed to the chair of Dr. Carswell, in University College.

The article *Cancrum Oris*, by Dr. Hennis Green, is well and lucidly drawn up. We must however content ourselves with passing praise, as the abundance of the matter contained in these two parts, and their claim upon our notice, bear an overpowering proportion to our limited space.

Next, is an article on Castration by Sir Astley Cooper. It is simply a description of the operation, and the circumstances under which it is performed. It possesses, in addition to the interest attaching to anything bearing the recommendation of so revered a name, that of being the last contribution of his pen. It may be here stated as a trait characteristic of his ardour and zeal in the cause of science, that he evinced the deepest interest in the progress of the Cyclopædia of Surgery, and at the time he was seized with his last illness, was actually engaged in re-writing his Memoir on Dislocations, for this work.

The article Cataract, by Dr. Watson, is an excellent contribution, and is illustrated with a well-executed engraving of the various forms of the disease, and of the instruments now generally in use for performing the different operations of cataract. The subject of the appreciation of the operations themselves in regard to the preference which one may deserve over any other in its applicability to a particular case, is well handled. We, however, must pass this over, contenting ourselves with one extract embracing some novel points in the diagnosis.

“Catoptrical exploration of the state of the lens as regards its transparency or non-transparency.”—This mode of exploring the eye, first invented by Professor Purkinje of Breslaw, has come into general notice only since M. Sanson published his clinical observations on the subject. ‘The young practitioner ought never to pronounce absolutely even on the existence of cataract without dilating the pupil by *belladonna*, and examining the eye *catoptrically*; and the most experienced may derive advantage from exposing in this way the whole field of the disease to his view, and testing the state of the crystalline.’*

If a lighted candle be held before the pupil of a sound eye, three reflected images of it are seen situated one behind the other. Of these the anterior and posterior are erect, the middle one inverted. The anterior is the brightest and most distinct, the posterior the least so. The middle one is the smallest.

If the candle be moved, the two erect images follow it; but the inverted image moves in the opposite direction, though not so quickly and extensively as the other two.

The anterior erect image is produced by the cornea; the posterior, by the anterior surface of the lens; and the middle or inverted image is from the posterior surface.

If the whole crystalline body be opaque, no image but the anterior erect one from the cornea is seen. This is of course the case also if the anterior part alone be opaque; but if it is the centre or the posterior part only which is opaque, the two erect images are seen, but the middle or inverted one is not.

To apply this catoptrical method to assist the diagnosis of cataract, when the ordinary mode of examination may not have cleared away all doubt, ‘the observer and the patient should be placed in moderate day-light; the patient’s back is to be turned towards the window; he should be seated, so that the observer may look rather down into the eye than upwards: and a candle is to be used which burns steadily, and does not blaze much.’

Cataract, even at an early stage, obliterates the inverted image, and renders the deep erect one very indistinct. Glaucoma, only when much advanced, obliterates the inverted image, while, in all its stages, it renders the deep erect one more evident than it is in the healthy eye.’

Dr. Mackenzie has found that in glaucoma, at a middle stage, the inverted

* Mackenzie, p. 642.

image is pretty distinct, when formed near the edge of the crystalline; but if the candle be brought in front of the eye, the inverted image is less distinct, and in some cases is altogether extinguished. This extinction of the inverted image is owing to a loss of transparency in the kernel of the lens which, in glaucoma, Dr. M. has found, suffers a peculiar degeneration, characterized by dryness of substance, and a reddish brown colour.

In incipient lenticular cataract the inverted image, though changed neither in colour nor in size, is indistinct, and its outline as if washed off. It is extinguished long before the cataract is fully developed—a fact of the greatest importance, Dr. M. remarks, in the diagnosis betwixt glaucoma and cataract, because in lenticular cataract, it is not the kernel of the lens, but the superficial laminae, which are first affected, so that the formation of the inverted image by any part of the posterior surface of the crystalline body is prevented.

In capsulo-lenticular cataract, the inverted image fades much sooner than in mere lenticular cataract; and even when the capsule, or the superficial substance of the lens, seems to be alone opaque, the inverted image disappears much sooner than we should expect from the apparently moderate degree of opacity.

In lenticular cataract, there is merely a general reflection, but no distinct image, from the anterior surface of the crystalline body.

If the lens is not in its place, but has been absorbed in consequence of an injury, been removed by an operation, or fallen down into a dissolved vitreous humour, neither inverted nor deep erect image is formed.

In the diagnosis of incipient cataract and incipient amaurosis, the catoptrical test is perfectly decisive; for in amaurosis, uncombined with glaucoma, the three images are always distinct, while in even the early stage of cataract, the inverted image is obscure. The diagnosis of incipient cataract and incipient glaucoma requires the catoptrical test to be familiar to the observer, else he may not be able to distinguish, that when the candle is held in the axis of the eye, the inverted image is indistinct in both diseases, but whenever it is moved to one side, it becomes distinct in glaucoma, and remains obscure in cataract.”*

To this succeeds an article on Catheterism from the pen of the editor of the *Cyclopædia*, and which being, as our French neighbours would say, a subject within his own speciality, claims our notice. After disposing of the definition of the word catheterism, he thus addresses himself to his subject.

“However inconsistent the avowal may appear with our present purpose, it is nevertheless perfectly true, that dexterity and suavity in the introduction of instruments is less to be acquired by the precepts hitherto inculcated in books, than by practice and example, and even some of the rules laid down to guide us on this point do not deserve to be particularly extolled. The surgical doctrine of catheterism stands in great need of simplification, and the few rules that really are useful with relation to it require to be redeemed from that over refined elaborateness, the effect of which is too frequently to intimidate the young surgeon, thus insuring a clumsy and painful performance of this surgical ministration, from the mere dread of a barely possible mischief. To him who possesses the necessary anatomical and physiological knowledge, sounding the bladder when the urethra is healthy and unobstructed may soon be rendered a simple and easy operation. But the instructions derived from books alone will not suffice; they are, in too many instances, the offspring of superficial observation or vague theory, and too frequently when obstacles occur, a reference to those rules will afford no assistance whatsoever in overcoming them.

* Mackenzie, p. 640, 1.

The great diversity of conformation in the parts concerned in catheterism, the variety of instruments employed for the purpose, with many other circumstances, seem to authorize the multiplication of rules to govern us in its performance. But the real truth is, the attempt to regulate and refine on all the incidents belonging to it, by obscuring the simple nature of the subject, has only tended to perplex and embarrass us in the consideration of it. Had the canal of the urethra been of equal diameter or purely cylindrical, and had it followed the same direction throughout its entire length, the operation of passing the catheter would be comparatively simple, and one general rule would embody all that could be said on the subject. But such is not the case. The points, therefore, that occur in its course where the cylindrical form does not exist, and those in which its direction is altered, are those which it is important to study, with a view to the easy, painless, and safe mode of introducing the catheter." 735.

In his reasoning on the condition of the urethra, Dr. Costello makes use of its natural division into a *fixed* or post-pubic, and a *moveable* or ante-pubic portion; the former commencing at the triangular ligament, and terminating in the bladder, the latter extending from the glans to the triangular ligament. On this division, he founds his rules for the introduction of instruments of every kind. He thus expounds this point:—

"In our consideration of the urethra it will be seen that we consider the entire canal in man as composed of a male and female portion; the former associated with the penis, moving with it in every direction, serving for the object of sexual congress specifically, and but incidentally only for conveying the urine out of its reservoir; in a word, the *moveable* division of the urethra; the latter, similar in structure in both sexes, in both having the same length and direction, and more or less closely attached to bones or enveloped by muscles, the *fixed*, or female urethra. Philosophically speaking, the female urethra is the type of the canal and exists alike in both sexes; all the ante-pubic portion is but a prolongation of the tube, superadded for a purpose wholly different from that of the excretion of urine. All this anterior portion is confessedly moveable, and the admission is equivalent to a demonstration of the inutility of the rules laid down for the introduction of instruments, as far as this portion of the canal is concerned, whether it be by the ordinary mode *above the pubis*, or by the so pompously named *tour de maître*. An instrument, whether straight or curved, can be carried down to the bulb, no matter whether the direction of this portion of the canal be upwards, downwards, forwards, or lateral; whether it be curved or straight. This point being indisputable, the question arises,—what mode of penetration is easiest for the operator and for the patient? what mode should be preferred with reference to the fair direction of the bec of the catheter into the commencement of the second division of the canal, and its ulterior progress through this fixed portion towards the bladder? The best, the easiest, the least painful is undoubtedly that which insures the unimpeded passage of the bec throughout the whole course from the glans to the bulb; which leaves no doubt as to the bec arriving at this point without stopping short of it or going beyond it, and which places it most favourably by the performance of a very simple manœuvre, for falling directly into the opening of the triangular ligament." 740.

After finding fault with the position which by former rules the surgeon is directed to take in regard to the patient upon whom he is about to introduce the catheter, he thus describes his own mode:—

"The patient being in the recumbent posture, the surgeon stands on his right. The relaxation of the parts having been procured in the manner already described, he seizes the penis behind the glans, between the ring and middle finger,

while the index finger and thumb, set on opposite sides of the glans, uncover the orifice of the urethra. The glans being inclined towards the right thigh, the surgeon, holding the catheter like a writing pen, in an arch over the right thigh, presents its bec to the orifice of the glans, which is already turned to meet it. Throughout the whole course which the catheter has now to run, its bec glides upon the right side of the canal, the concavity of its curve looking to the right side, while the curve itself is seen arching the canal above the acrotum, until the point arrives at the bulb.

The ease, brilliancy, and lightness of execution of catheterism depends entirely upon the manœuvre now to be performed, of passing from the bulb to the entrance of the muscular portion,—the sill, as it were, that divides the whole urethra into its male and female portions. The shaft of the catheter is now resting over the thigh, but not in contact with it, and its bec is in the bulb.

It must be lifted from the thigh, and brought up to the perpendicular by a movement of a quarter of a circle, the centre of which is the bulb; in other words, the handle of the catheter moves round a quarter of the base of an inverted cone, while the bec pivots on its apex. But these movements, though described as distinct, must be made to follow each other without interruption; they must not be executed, as if they were two 'times' of the same process, but must run into and blend finely with each other, so that the movement of lowering, in which they terminate,—that movement in which the handle of the sound is brought down from the perpendicular till it lies inclined between the thighs, shall either bring the bec exactly into line with the muscular part of the urethra, when by a gentle impulsion applied at this part of the movement, it is propelled directly into it, or toppling on the right edge of the aperture in the triangular ligament, as it were on the edge of a bowl, it falls into it.

There will of course be some variation of the process, where the patient is sounded in the erect posture. In such case, the surgeon may prefer introducing the catheter in a line with the hollow of the groin, instead of arching it over the thigh; but the variation will merely consist in the instrument describing a lesser fraction of the circle, while the hand is bringing it up from the groin to the perpendicular." 741.

This article on a subject of so much importance abounds with clear practical views and rules which cannot fail to improve our acquaintance with it, while the Essay itself must enhance the reputation of its author. We shall make room but for one more extract, descriptive of Dr. Costello's *self-guiding* catheter, which is now becoming better known to the profession.

"The catheters already in use being commonly of equal diameter, and rounded or oval at the point, present the same unvarying relation to every point of the canal whether it be narrowed or dilated; and hence the obstacles (natural obstacles, as they are termed) that oppose the progress of the instrument upon the slightest misdirection of it in those points of the canal where its diameter varies abruptly. I have had a fair share of experience of this subject and have thought much upon it, and no doubt now remains on my mind of our possessing the power of obviating the difficulties of catheterism, as arising from these obstacles, by the form of the instrument which has now been for some time subjected to the test of daily use.

In speaking formerly of the choice of a catheter I dwelt much on the importance of its bulk; the largest, when not disproportioned to the calibre of the canal, being in general the best. The reason of the preference is obvious,—the large instrument, according as it advances in the urethra and unfolds the membrane, forms a small vacuum before its bec, and thus its route is opened and prepared for it in a manner which does not obtain when a small instrument is

employed, for in the latter case the folds of the canal are in close contact with its point.

The qualities that seem to me desirable in the catheter are the following :—

First, the volume, or size, should be full, in proportion to the calibre of the urethra.

Secondly, its shape should be such that the small vacuum in advance of the bulk of the catheter, and produced by it, shall be occupied by a small guiding prolongation of its point, inclined to the upper surface of the canal.

Thirdly, on its under surface its shape, between the tip of the small prolongation and the part at which its fullest diameter is developed, shall be such as to occupy or accommodate itself to the depression as it passes them, and to depress and flatten the eminences on the under surface of the urethra as it passes over them.

Fourthly, that the eyes shall not be too large, and that they shall be so placed as not to present any obstacle to the progress of the sound, either by their being plugged or stopped up by the lining membrane of the urethra.

It will be evident on examining the catheter I propose, that its form fulfils all the conditions required in relation to the canal in its passage down to the bladder.

Its form in all respects is the same as that of an ordinary catheter, except from the eyes to the termination of the bec, and in this portion its shape is entirely different from that of the instrument in general use. The whole of this portion consists of three parts, a neck, head, and beak, and bears a strong resemblance to the neck, head, and bill of a swan.

When a catheter of this shape is passed into the urethra the bulk of the head is sufficient to unfold the membrane in advance of it ; the bill occupies the vacant space thus made, and continues to move along smoothly in contact with the upper surface of the urethra, from which its extreme point is so fashioned as to incline slightly towards the axis of the urethra. When it arrives at the bulb, the bulk of the head occupies this depression, while the guide or bill is necessarily directed into the middle of the isthmus, or commencement of the *fixed* portion of the canal ; the handle being now gently lowered, the bulk of the head ascends out of the depression of the bulb, and favoured by the inclined plane, in which the head and bill are blended together, glides imperceptibly over the sill formed by the under edge of the triangular ligament. It moves on freely through the muscular portion till it reaches the prostate ; here again, the guide, keeping close by the upper surface, overtops the eminence of the verumontanum, and depressing it, leads the head of the catheter gently over it. The bill then enters the bladder at the upper part of its orifice, making way for the head of the catheter as it had done throughout the whole of the passage. To resume : the chief and valuable peculiarity of this catheter consists in the fidelity with which its upper surface keeps to the upper surface of the urethra, while the bulk of the body, tapering upwards to the end of the bill, successively unfolds the depressions and climbs upon the eminences which it meets in its course along the inferior surface of the canal." 745.

Caustics and Cauterization the contributions of Mr. Ure, and Cephalæmatoma, that of Dr. Walshe, we pass over, not from any disregard of their respective merits, which are considerable, but from a wish to introduce a new subject of interest to the reader. Chondritis, a new denomination for the ulceration of cartilage, attests the progress of pathology in a branch that has been cultivated with the most gratifying success in this country ; and chiefly by Sir B. Brodie. The recent experiments also of Mr. Liston, which are alluded to in the present article, afford strong confirmation of the views of the pathology of the ulceration of cartilage pro-

pounded in the *Cyclopædia* in the articles *ARTICULATION* and *CHONDRITIS*. This part of the subject was so fully treated under the former head by Mr. *Blackburn*, that Mr. *Spencer Wells*, the author of *Chondritis*, has merely added the confirmatory experiments of Mr. *Liston*, enlarging chiefly upon the more practical part of the subject. He, however, adds an interesting observation in connexion with a disease as yet but little known, the puerperal form of arthritis. He says, "I had lately an opportunity of examining the body of a female who died about a fortnight after delivery, with symptoms which were ascribed to puerperal peritonitis. There were, however, no traces of abdominal disease. While examining the organs of the pelvis, our attention was directed to the left sacro-iliac synchondrosis by an appearance of bulging in that situation. We found that the cartilages covering the opposed surfaces of the ilium and sacrum had been completely absorbed, and the bones were consequently denuded. There was a large quantity of pus contained between and around the bones, and their abraded surface was covered by an exudation of recent lymph."

A very graphic description of the symptoms usually observed in the different classes of cases in which ulceration of cartilage is a prominent symptom, on the principal and primary disease, is given, and Mr. *Wells* proceeds to the diagnosis of the chronic cases from other diseases, and this part of the subject is so well treated, and of such practical importance, that we give the section on diagnosis entire. The diseases for which ulceration of cartilage may be mistaken are "inflammation of the synovial membrane; articular osteitis; scrophulous deposit in the articular extremities of the bones; the peculiar change of structure in the synovial membrane described by Sir Benjamin Brodie; inflammation of the ligaments; external chronic abscess; inflammation and effusion into a bursal sac; and neuralgia."

"The diagnosis of ulceration of cartilage from inflammation of the synovial membrane is not difficult. In synovitis the pain is at first severe, but gradually diminishes; in ulceration, on the contrary, it is as a general rule at first slight, gradually increasing, and is aggravated in a far greater degree by any approximation of the articular extremities of the bones. In synovitis the swelling occurs simultaneously with, or very soon after the first attack of pain: in ulceration patients generally suffer very severe pain for weeks before any swelling is discoverable. In synovitis the form of the swelling is characteristic, from the bulging of the fluid at those parts of the joint unprotected by ligaments: in ulceration the swelling has the form of the healthy joint. In synovitis there is fluctuation throughout the disease: in ulceration there is no fluctuation till suppuration has taken place.

Caries of the head of the bones is marked by its slow progress, and the earlier occurrence of swelling. In the scrophulous cases there is very little pain, and far more swelling than in the case of disease of the cartilage; there are other marks of a scrophulous diathesis; the disease rarely occurs after puberty; the swelling does not take the form of the joint, but gives an appearance of enlargement of the head of the bone, so peculiar, that those who have observed it once, will not fail to recognize it. Suppuration, when it comes on, is not confined to a single collection of matter, but forms a succession of abscesses.

In the words of Sir Benjamin Brodie, the gelatinous degeneration of the synovial membrane is marked by 'the gradual progress of the enlargement and stiffness of the joint without pain, and the soft elastic swelling without fluctuation,

in the majority of cases, enable us to distinguish it readily from all the other morbid affections to which the joints are liable.*

Inflammation of ligaments is marked by the superficial character of the pain and its increase, not by all motions of the joint, but only by those which put the affected ligaments on the stretch. This is characteristic. The absence of the other symptoms of ulceration of cartilage will also be remarked.

The circumscribed nature of the swelling which results from bursal inflammation, its chronic character, the absence of pain, together with the occupation of the patient, will be sufficient to detect the nature of the disease in its early stages on the most cursory glance. But if suppuration have taken place, the sac have ulcerated, and pus has been discharged into the cellular tissue around the joint, a mistake may be made. In order to show that this error is not an imaginary one, I may state, that I knew of a limb which was condemned to amputation, though this was the sole disease. The diagnosis is, of course, most simple, especially if the disease occur in the knee or elbow, as is almost invariably the case. If the pus were within the joint, it would be internal to the patella or olecranon, whereas in the other case it is external. The other marks of disease of the cartilage are also wanting.

To those who have not seen much of articular diseases, it may appear unlikely that mere chronic inflammation of the soft parts around a joint, attended by suppuration, should be mistaken for serious disease of the joint itself. Such, however, is not unfrequently the case; and sometimes the error is very far from a gross one, though an attentive enquiry into the history and symptoms would suffice to establish the diagnosis. Thus, if we compare the symptoms with those of ulceration of cartilage, we find that evident tumefaction is one of the earliest signs of chronic inflammation of the soft parts; there is also more stiffness of the joint in the early stage: the pain is more confined in its situation; aggravated in a less degree by motion of the joint, but in a greater by superficial pressure over the seat of pain: it does not increase to the same severe extent, nor is it accompanied by the startings of the limb: it is not so much relieved by rest. It will be remembered also that generally speaking it is some months before suppuration takes place from cartilaginous disease.

Sir Benjamin Brodie states that a large majority of the cases of suspected diseased joints which occur in fashionable practice are nothing more than neuralgic affections. The same assertion may be made with perfect accuracy in the case of certain unfortunate females, who frequently fall under the observation of the general practitioner. Their irregular habits of life; the mental distress many of them suffer; the state of nervous excitement common to the order; and its increase by means of ardent spirits in the large majority, induce a state of system which predisposes to diseases of the same character as those which result from more refined dissipation. The most severe pain is felt in the neighbourhood of some joint, and as this is for some time unaccompanied by other symptoms, it is more likely to be mistaken for ulceration of cartilage than any thing else. The diagnosis, however, is not difficult. The general appearance of the patient is that of an hysteric nervously excitable person—her mode of life is probably such as tends to exhaust or cause irregular distribution of nervous influence—probably there is neuralgia in other parts,—but even suppose, as is sometimes the case, the patient appears florid and healthy, even then the symptoms are characteristic. The pain at first comes on in paroxysms, the intermissions being perfect; it is evidently seated in the integuments; there is extreme tenderness on the slightest touch, while on continuing the pressure, considerable force may be exerted, and the pain be thus removed. The pain is not confined to the joint, and remains

* "Pathological and Surgical Observations on the Diseases of the Joints, p. 86."

for a considerable time without other evidence of local disease, and when swelling does come on, it is a diffused œdema. Frequently extensive motion of the joint can be borne without pain. These marks are quite sufficient to establish our diagnosis, but we must avoid the other extreme, and not be led by the presence of neuralgia to infer the absence of organic disease. As far as my personal observation has gone, I should be led to doubt the position that simple morbid irritability of any tissue can continue for any considerable length of time, without inducing increased arterial action." 770.

The morbid appearances in the different articulations are then succinctly described, and Mr. *Wells* proceeds to the subject of treatment, paying a well-merited tribute to the genius and industry of Sir Benjamin Brodie.

"The indications for the local treatment of a joint, the cartilages of which are ulcerated, are to prevent any increase of the morbid action from motion, shocks, or any other cause of irritation. Then regarding the ulcerative process as the result of chronic inflammatory action to lessen and subdue this by means of counter-irritation." 771.

With regard to the best means for keeping the joint in a state of absolute quietude, Mr. *Wells* dilates at some length upon the advantages of starched bandages and other immoveable apparatus, by means of which, he says, "we have an apparatus easily procured, readily applied, and as speedily removed: a gentle and uniform compression is exerted on the limb, the joint is kept immoveably fixed, and a patient who, under other circumstances, would be confined to a sick chamber, is enabled to walk in the open air with the assistance of crutches, and as the bandages are very light, and adapt themselves to every irregularity of the surface of the limb, the joint may be kept in any position that is desired."

Of the means employed to subdue the morbid action going on within the joint, directions are given for the application of leeches and cupping, and with regard to counter-irritation, we cannot do better than quote the valuable observations of Mr. *Wells*.

"In children, blisters kept open with some irritating dressing, afford much relief to the pain, and if the limb be kept quiet, this may be all that is necessary; but in adults, issues made with caustic potash, or the potassa cum calce, are far more serviceable. Sir Benjamin Brodie says they have a greater effect over ulceration of cartilage than any other disease of joints. They should be made as near the joint as is compatible with the safety of the synovial membrane. In some cases the first application is followed by an immediate cessation of the symptoms; in almost all, considerable relief is afforded, and if quiet be maintained for some weeks, the cure is often completed. Sir B. Brodie remarks, that the benefit derived from the issue does not appear to be in proportion to the quantity of pus discharged from its surface, and he thinks it is a decidedly better plan to keep the issue open by rubbing it two or three times a week with caustic potash, or sulphate of copper, than to employ beans. When these issues are applied, however, in combination with the ordinary methods of fixing the joint, their good effects are often destroyed by the involuntary motions of the limb. It is evident that the effects are likely to be far more beneficial when the joint is kept perfectly immoveable, and to effect this after applying the starched bandage, I have removed a piece about the size of half a crown, and applied the potassa cum calce to the skin at this spot. In this way perfect rest and the benefit of the issue were simultaneously and easily obtained.

The application of moxæ, and the formation of eschars by means of heated

irons have been much recommended, and were formerly in pretty general use in articular diseases, but they have of late years been superseded by caustic issues and setons. Most patients have a great horror of the actual cautery, and the difficulty of regulating the extent of their action is another strong objection to all the usual modes of cauterization. Instances are on record in which the synovial membrane was penetrated, and the most deplorable results followed. The evils, however, which arise from the abuse of a remedy, are not arguments against its proper use, and I believe that *moxæ*, when properly applied, are more manageable and efficacious than any other form of counter-irritation. The simplest and best with which I am acquainted, is made with paper which has been steeped in the liquor plumbi diacetatis, and afterwards dried. This is folded into a narrow strip, and rolled up after the manner of a bandage, till it gives a surface about the size of a sixpence. It is held on the point of skin where we wish to make the eschar by a pair of forceps or scissors, and a light applied. By blowing on it, it burns brightly like tinder without flame, and produces an eschar of sufficient extent which separates in a day or two. They may be applied in this way in conjunction with the starched bandages, by cutting out a small piece of the latter, and thus all the benefits of counter-irritation may be secured, with perfect quietude of the limb. In Paris, agaric has been lately used to form *moxæ*, and it answers the purpose very well. Severinus and Rust are the principle advocates for the actual cautery. The latter author is very minute in his directions as to the mode and extent of its application, but it appears unnecessary to describe his practice, as all the benefits may be derived from the *moxæ* I have described, without any of the ill effects which have been observed to follow the hot iron." 773.

The treatment after suppuration has taken place is then discussed, together with the general treatment, but we have quoted so largely that we have only space for one remark strongly illustrative of the benefit of a knowledge of medicine to the surgeon, and another proof that, to be a good surgeon a man must be a good physician also.

"Before amputation be decided on, the lungs should be carefully examined, for I have now seen three instances in which very extensive pulmonary disease existed in cases of diseased joints in scrofulous patients (and which, it was thought, had commenced in ulceration of cartilage,) the general symptoms of pulmonary disease being singularly latent. There was in fact nothing to induce a supposition of chest affection, while very extensive disease was evident on auscultation. Amputation in such cases would be useless torture, and the surgeon would have the credit of hastening his patient's death. I believe many of the cases we used to hear of, where disease was said to commence in the lungs as soon as the diseased joint is removed, are to be accounted for in this way: the lungs being diseased, but the symptoms rendered latent by the action going on in the joint. On the other hand, if the lungs be sound, and there is no hope of saving the joint, the sooner it is removed the better, as the local irritation, if long protracted, will almost certainly be a cause of disease in some vital organ."

We consider this article on the whole just what a Cyclopædia article should be—a condensed account of previous knowledge on the subject, with interesting observations deduced from the experience of the writer. It has a striking contrast with the prosy Germaniform effusions of many of the aspirants for literary renown in the present day, and we would advise them to take a hint from this and other articles by the same writer, and, rejecting transcendental speculations, confine themselves to a simple exposition of what they know of their subject, and above all confine their remarks to the object of the work in which they appear.

We pass over several articles of merit to notice one on Club Foot by Mr. H. T. Chapman, in which the subject is handled with clearness and impartiality.

"The investigation and establishment," says Mr. Chapman, "by Dr. Stromeyer of Hanover, of the correct ætiology of club-foot, his successful revival of the operation of Thilenius for its cure, and the practical bearing of the same principles on other defects and distortions of the frame, have given this subject a greater importance in the eyes of the profession, than almost any recent improvement in surgery, and have excited very general surprise that the treatment of these deformities should have been so long abandoned to the mere mechanic. A review of the opinions entertained by successive writers upon this branch of surgery, will show that scarcely any addition to our knowledge of the nature and treatment of these affections was made from the time of Hippocrates to the latter part of the last century (1784), when Lorenz, a surgeon at Frankfort, divided the tendo achillis for the cure of a case of club-foot, under the direction of Thilenius." 781.

"Stromeyer's immediate predecessors, particularly Scarpa and Delpech, had thrown much light upon the nature of these affections; but sufficient obscurity still remained to check the repetition by others of Delpech's not very successful experiments. An investigation into the influence of the respiratory system of nerves in producing disorder of certain muscles of the trunk, and thus occasioning curvature of the spine, led Dr. Stromeyer through the secondary to the primary sources of club-foot, exposed its real nature, and enabled him to lay down the true system of treating it with so much certainty and amplitude, that succeeding writers have done little more than confirm the principles, for the development of which we are indebted to him." 782.

This point is resumed in the discussion of the opinions of different physiologists, as to the causes of club-foot, in a quotation from Dr. Little.

"Rudolphi gave a more complete view of the origin than any of his predecessors, and one more consistent both with physiology and pathology. He concluded that congenital talipes and the analagous deformity of the hand (club-hand) arise from disordered influence of nerves on muscles in the foetal state, by which their contraction is prematurely excited, and often in so vehement a manner, that the mother experiences pain from the convulsive motions; the limbs thus become distorted, and permanent deformity is often thereby occasioned. He observes, that the authors who have maintained the injurious influence of external and mechanical causes, such as pressure of the uterus through an improper position of the foetus, appear to have been unaware, that these distortions are not unfrequently witnessed in embryos of three or four months. Rudolphi not only points out the influence exercised on the muscles of the extremities by powerful and general causes affecting the entire nervous system of the foetus, but states that talipes often occurs in infants, in other respects well-formed, from simple spasm.' To Delpech, however, belongs the merit of having first worked out and practically applied the correct principle of treating these affections." 784.

Dr. Little's own opinions on the subject are moreover quoted *in extenso*, the result being thus summed up by Mr. C.

"We may assume it, therefore, as fairly established, that genuine club-foot, in all its varieties, is produced by irregular action of certain muscles, which irregular action consists in a disturbance of the balance existing naturally between the antagonising systems, the flexors and extensors, the adductors, and abductors of the foot; that this disturbance may occur in two ways; one system of

muscles may be altogether deprived of nervous influence—may be paralysed, in short, and incapable of counter-balancing their antagonists in a state of *ordinary* action ; or, retaining their ordinary power, the same set of muscles may be overcome by their antagonists preternaturally excited—in a state of *extraordinary* or spasmodic action ; and, finally, that the occasional co-existence with congenital talipes of congenital club-hand, squinting, stammering, and spasmodic contractions throughout the muscular system, and the occurrence of club-foot as a consequence of convulsions during dentition, of fever, measles, croup, &c. in infants, of apoplexy,—or even of hysteria, in adults,—all indicate an origin dependent upon imperfect development or lesion, upon changes either of structure or function in the cerebro-spinal system, with scarcely less certainty than that with which many instances of acquired club-foot may be traced to direct local injury or irritation of a particular nerve.” 786.

The article is well illustrated with woodcuts representing the distorted limbs, as well as the apparatus employed. The essential nature of the operation consists in a puncture of the skin followed by a subcutaneous division of the tendon. “ By far the majority of operators,” says Mr. C., “ have adopted the views and follow the practice of Stromeyer, the various improvements suggested having reference to the form of knife, the distance from the heel at which section should be performed, and the mode of dividing the tendon, whether from behind forwards, or the reverse, whether by a transverse or oblique section. ‘ There has indeed,’ as Dr. Little remarks, ‘ been no improvement of the principles laid down by Delpech, the value of which was first satisfactorily demonstrated and practically illustrated and enforced by Stromeyer. But there has been a departure from these principles, which Stromeyer has justly designated a retrograde process.’ ”

“ Whenever the section of other tendons besides the achilles tendon is required, it is better to divide the tendons of those muscles which produce the inversion or eversion first ; and, having brought the foot in line with the leg, that is, having reduced the deformity to the state of talipes equinus, then to operate upon the tendo achillis.

Not unfrequently before the contraction can be fully overcome, a transverse section of the plantar fascia is called for.” 793.

We could have wished to dwell at some length on an article on Congelation, by Dr. A. Buchanan of Glasgow, but our space forbids this. It bears the impress of careful observation and a philosophic mind.

We however pass over this article on Congelation, as well as two or three others in this part, with the less regret, as we propose to return to them in a future number. Amongst these we may mention Condyloma by Henry James Johnson, and Cystitis by the Editor himself.

The next article we shall dwell on is one on Cornea by Mr. Wharton Jones. Mr. Jones thinks that the staphyloma corneæ is not, as commonly supposed, a protrusion of the cornea become opaque with the iris adhering to its posterior surface ; but actually inodular tissue, which has been formed on the anterior surface of the iris, which has protruded in consequence of destruction of the cornea, partial or complete. The following extracts develop this view in detail.

“ If in scrophulous, catarrhal, or catarrho-rheumatic ophthalmia, there be a penetrating ulcer of the cornea, the aqueous humour, as has been already men-

tioned, escapes, the iris falls forward into contact with the cornea, and a small part of it is perhaps prolapsed through the ulcerated opening. The progress of the ulceration being stopped by the yielding of the inflammation, the prolapsed portion of the iris, and the ulcerated part of the cornea are involved in one cicatrice. The opening in the cornea being thus closed, the aqueous humour again collects, and the anterior chamber is restored; though somewhat diminished, in consequence of the partial adhesion between the iris and cornea (*synchia anterior*). There is no prominent distention on the front of the eye in this case, because, as the inflammation subsides, the small protruded portion of iris shrinks and flattens; but if the destruction of the cornea has gone on farther, either by extension of ulceration from a continuance of the inflammation, or by the giving way of an abscess of the cornea, and considerably more of the iris has protruded, the prolapsed portion of the iris does not shrink when the inflammation begins to abate, as in the former case, but remains, and forms a projection at the part of the cornea implicated, which is generally the lower or lateral. This projection is at first merely a bag of the iris distended by the aqueous humour, and is called *staphyloma iridis*; but, by and by, its exposed surface becomes covered by an opaque firm tissue, of the nature of the *tissue of cicatrice*, and this tissue is incorporated at the base of the tumour with the sound cornea. The projection, the mode of origin of which I have just described, is a *partial staphyloma*; it is not a distention of the cornea itself, but a protruded portion of the iris covered by a *new tissue*, intended to supply the loss of substance which the cornea has sustained. The mode of origin of a *total staphyloma* is essentially the same, but differs only in degree. The whole or greater part of the cornea being destroyed, as occurs in gonorrhœal, purulent, and very often in variolous ophthalmia, as also that of new-born infants, the whole iris falls forward, the pupil becomes closed, and the aqueous humour, being thus allowed to accumulate in the posterior chamber, the iris is kept distended in the form of a tumour on the front of the eye. Its surface gradually gets covered with an opaque cicatrice-like tissue, or pseudo-cornea, which assumes a greater or less degree of thickness, and a total staphyloma is the result. Sometimes the central part only of the cornea is destroyed, a ring of the circumference still remaining; the staphylomatous projection has then the form of a small globe stuck on the front of a larger, but if disease has extended to the ciliary body, the whole front of the eye is prominent like a blunt cone." 844.

Founded on this particular view of the pathology of the disease, Mr. W. Jones's prophylactic treatment is peculiar and deserves mention.

"When an inflammation of the eye has run so disastrous a course, that the conditions for the formation of a total staphyloma are laid, any treatment which may be adopted can have for its object, not to save the eye as an organ of vision, but to prevent it from degenerating into a tumour, which not only causes great deformity, but is a source of considerable irritation even to the opposite eye, so much so, that the patient seeks for its removal by operation, sooner or later.

Prophylactic Treatment.—According to the account of the mode of formation of total staphyloma above given, it appears that the supply of aqueous humour in the still-existing posterior chamber, is what keeps up the distention of the iris, so that the pseudo-cornea which is moulded on its surface, presents the form of a round prominence on the front of the eye. If this be the case, the destruction of the source of the aqueous humour by breaking in upon the integrity of the posterior chamber, is the means which offers to prevent the development of the staphylomatous projection. The simplest plan of effecting this appearing to me to be the extraction of the lens, I put the operation into practice in the following case:—

A man, about twenty-two years old, came to me labouring under the effects of severe purulent ophthalmia of both eyes. In the right eye, the cornea being

destroyed and the pupil closed, the iris protruded and was distended with aqueous humour. The left eye had also suffered very much; there was penetrating ulcer, prolapsus iridis, and consequently considerable distortion and contraction of the pupil. Both eyes were still affected with the inflammation, and it was very doubtful whether the left eye could be prevented from getting worse, especially as it was evidently kept in a state of additional irritation from the presence of the staphyloma in the right. By an incision with a Beer's cataract-knife through the protruding and distended iris, the lens was extracted. Severe re-action followed; less perhaps in consequence of the operation, than from the patient not being in a situation to take proper care of himself. The iris did not again become distended; on the contrary, the eye shrunk, and irritation being thus removed, the left eye progressively recovered, as far as the organic changes it had already undergone allowed, and further than there had been reason to hope for, as sufficient vision was preserved to enable the patient to resume his employment as a porter.

In those cases in which the eye is destroyed by purulent ophthalmia, whether in adults or new-born infants, by gonorrhœal ophthalmia, variolous ophthalmia, &c. and in which staphyloma does not result, but the cicatrice which forms in the place of the cornea is flat and the eyeball becomes atrophic, I suspect the lens has escaped on the giving way of the cornea.

A fully formed total spherical staphyloma is a source of great deformity; its removal therefore is often sought for in order that an artificial eye may be worn. But what principally demands its removal, sooner or later, is the irritation which it keeps up, and which is apt to be communicated to the opposite eye." 845.

This article is illustrated by a well-executed plate, containing eight very expressive figures.

We now come to the article *Diplopia*, the last in Part VIII. As double vision with two eyes is merely a disturbance of the conditions on which single vision with two eyes depends, Mr. Jones commences his article with an enquiry into those conditions.

"An affection of the retina is the primary condition of a visual perception, but a visual perception has in itself nothing to do with the optical apparatus regulating the transmission of the light which produces the affection. The question, therefore, why certain affections of the two retinæ should yield but a single, and others a double visual perception, is strictly physiological. All the purely physical explanations which have been offered of binocular vision have obviously reference alone to conditions not at all connected with the visual perception, but, from the nature of the optical apparatus in front of the retinæ, necessary, in order that the images of objects may be simultaneously projected on particular parts of those nervous expansions.

The particular parts of the two retinæ on which the rays of light from the same point of an object simultaneously fall, when the eyes have their natural corresponding direction, are the point of either membrane corresponding to the axis of the eyeball, and the various points or papillæ of the temporal half of one, and of the nasal half of the other, similarly situated in reference to it. These points or papillæ, called *corresponding*, *identical*, or *analogous*, have naturally, it is said, such a sympathy, that the simultaneous affection of them is followed by a single visual perception only: whilst double vision results from simultaneous impressions on any other parts of the two retinæ.

Objections have been urged against this doctrine of corresponding points of the retinæ. Mr. Wheatstone's ingenious observations are quite decisive in exposing the exclusiveness of the doctrine as above stated, but that they do not overthrow it altogether, will I think be made to appear in the course of this article." 873.

From the enquiry which follows, Mr. Jones sums up thus—

“When from any cause there is a loss of the natural correspondence of the optic axes, the parts of the two retinæ on which the images of the same object are simultaneously projected are not corresponding parts; therefore, in accordance with what has been above said, the sensations arising from the two impressions are separately perceived by the mind, and the consequence is double vision. Double vision with two eyes is thus in itself not a disease, but, from the organization of the eyes, a natural result of derangement of those conditions on which single vision depends. The proximate cause of the derangement alluded to is most frequently irregular or impeded action of the muscles of the eyeball; but it may be an organic contraction of parts, some morbid production in the orbit, or the like, displacing the eyeball.

The two images in diplopia, are often distinguished into true and false—or real and imaginary; but such a distinction is improper, as the one image, although it may be less distinct, is not more false or imaginary than the other, both being equally the result of sensation produced by the impression of rays of light on the retina. That one of the two images is more distinct than the other, is owing to the circumstance that in one eye the impression is made on the central part of the retina, which is more sensible than any other; while in the other eye, the impression falls on a part of the retina, which according to the degree of deviation, is more or less distant from the centre. The adjustment of that eye, moreover, which receives the impression on the centre of its retina, corresponds more with the distance of the object looked at; the relative position of the two images depends upon the direction of the deviation of the eyes. As sometimes the deviation of the axes of the eyes exists only when the person looks in particular directions, and at certain distances, so does the double vision in such cases take place only when the patient looks in those directions, and at those distances.

The deviation of the optic axes giving rise to double vision may exist in various degrees, from an evident squint to a scarcely perceptible cast. It is in this latter case that the double vision is most marked, as the two retinal sensations are about equal in force, in consequence of the images of the object being projected on or near the centres of the retinæ, and on parts of it not far from being corresponding. When the deviation of the optic axes is still slighter, the two retinal images contend as it were to attract the mind's attention, and the object appears as if oscillating with velocity before the eyes, the consequence of which is confusion of perception when the two eyes are employed, and sometimes vertigo. As the person in this state can see things distinctly only when he closes one eye, the affection has been called *Monoblepsia*.

The name *diplopia* is usually confined to those cases in which the misdirection of the eye is so slight as scarcely to attract notice, but in which, for the reason above explained, the double vision is strongly experienced by the patient.

The irregular or impeded action of the muscles of the eyeball, giving rise to diplopia, may be owing to an affection of the muscles themselves or of their nerves, or it may be owing to disease or injury of the brain, or to drunkenness or fear, or to derangement of the *primæ viæ*, &c. But this is not the place to discuss the various primary affections on which the derangement of the muscles of the eye depends. It is enough to explain the nature of diplopia with two eyes, in order that, as a symptom in any particular disease, it may be appreciated at its due value.” 178.

The article concludes with a practical remark of so much interest and value as to be well worth quoting. “In most presbyopic persons Dr. Amott has ascertained double vision in either eye singly to exist in a slight degree, and he has discovered that it may be entirely obviated by having the glasses of the spectacles so placed, that the axes of the eyes

may fall upon them more or less obliquely. Vision is at the same time rendered very much more distinct."

The Cyclopædia of Surgery conducted to its conclusion in the spirit and style of the present volume, cannot fail of the object which it seems to aim at above all others, and which is, to form a work of reference in which the present state of surgery shall be fully and clearly expounded. The earnestness of its editor to carry out this object will moreover obtain for him pardon for past interruptions, if he continue to pursue an onward course with any tolerable degree of steadiness. This first volume stamps a high character on the work, and regularity of issue of the future parts, is all that is required to secure for it extensive patronage. In closing our remarks for the present, we should not omit to state, that our estimate of the Cyclopædia of Surgery is fully confirmed by the critiques of the Continental Reviewers.

**A NEW SYNOPSIS, OR THE NATURAL ORDER OF DISEASES:—
WITH A NEW PATHOLOGY OF FEVER AND INFLAMMATION. By
Robert Stevens, M.R.C.S. London: Highley, 1841.**

THE successive failures of so many able writers, from Sauvages to Good inclusive, in constructing a satisfactory classification of diseases, prove that it is an undertaking of no ordinary difficulty. What practitioner attributes any portion of the success he may have acquired in the investigation or treatment of disease to aid derived from nosological systems? Nay, is he not assured that had he adhered rigidly to their artificial arrangements, he would have frequently been betrayed into many errors, impossible to an enlightened, although, by them, unaided observation? Teachers of medicine are becoming more and more persuaded of this, and hence some of the ablest professors have reverted to the topographical mode of demonstrating diseases. Objectionable as this plan may be, as involving much repetition, and neglecting general principles, it is probably, in the present state of our knowledge, the best; for, if it does not supply all the information required on commencing practice, it possesses at least the negative advantage of leaving the mind unencumbered by a mass of useless verbiage, simulating knowledge, and obstructive rather than available to future self-improvement. It is a sad thing for the young practitioner to find that he cannot treat his patients satisfactorily until he has unlearned what he has been at much pains to acquire.

We do not say that nosologies in themselves are useless or hurtful: could a truly scientific and natural one be constructed, its utility in aiding the diagnosis, description, and treatment of disease would be unquestionable; but we fear the obstacles which oppose themselves to its construction are well-nigh insurmountable. However the successes which have attended the efforts of naturalists, may have excited the hopes and ex-

ertions of physicians, yet they have found that diseases are not to be arranged with the same ease as the objects of zoological or botanical research. The structure, history, &c. of these last are well known, their resemblances and differences easily ascertained, and hence their arrangement in systems according to their natural affinities practicable. How is this possible with diseases, whose characters are so variable, or seem to us to be so from our ignorance of their true nature, and whose affinities are so ill-known, that in every nosological system we find some such incongruities as the placing together "the itch and broken bones" in the system of Cullen, or the toothache and prolapsus ani in that of his critic Mason Good. However satisfactory it would be to be able to classify diseases according to their pathology, its impossibility is at once seen, when we consider of how few diseases the true pathology is known; and we should imagine there can be no question that it is better to practise without a nosology at all, than with one founded upon erroneous pathology. Still the attempt to improve this state of things must not be given up in despair, and we are therefore very glad to see another work appear addressed to this object, although we regret to add that it does not seem to us to have attained it.

Mr. Stevens's natural system would seem to be but a modification and extension of that of Dr. Brown, speaking of which, he thus expresses himself:—

"But Dr. Brown attempted a natural arrangement of diseases, dividing them into two classes: namely, diseases of excitement, and diseases of depression. Yet, from the great defects in the pathological knowledge of the day, and other causes, his arrangement was very imperfect; many diseases being palpably out of place. The plan, therefore, appeared to be utopian and was abandoned; but it contributed not a little to the overthrow of the Brunonian doctrines, that the principles upon which the theory itself depended, were imprudently strained. Excitability was confounded with increased vitality, whereas it is simply an undue expenditure only, an extravagant using up, as it were, of what was called the sensorial or vital power. Hence, sthenic affections, such as inflammation, are diseases of excitement only, not of increased vitality; a very important distinction, and one which most satisfactorily accounts for the subsequent depression. But the asthenic diseases are directly dependent upon diminished or defective power; and, therefore, the only defect in this system seems to be, that the sthenic and asthenic diseases are not truly and perfectly contrasted; nevertheless they are sufficiently so, to indicate in a nosological table, with the additional information conveyed by the collateral arrangements, not only much of the pathology of every disease, but also much of the principles of treatment." 4.

Following out this idea, the author considers that all diseases may be naturally arranged into the two classes of sthenic and asthenic; each class being composed of nine orders.

CLASS 1.—STHENICÆ.

Order 1, Febres

- 2, Phlegmasiæ
- 3, Eruptiones
- 4, Impetigines
- 5, Tumores
- 6, Hæmorrhagiæ
- 7, Spasmi

CLASS 2.—ASTHENICÆ.

Order 1, Marcores

- 2, Adynamis
- 3, Cachexiæ
- 4, Parisiticiæ
- 5, Ectopiæ
- 6, Profluvii
- 7, Dyscinesiæ

8, Dysorexiæ
9, Vesaniæ

8, Dysæthesiæ
9, Dementiæ.

Mr. Stevens considers that each order in the sthenic column is the natural contrast to the order placed opposite it in the asthenic column. There can be no question that diseases manifest either a sthenic or asthenic character, but we can by no means agree that many of these arranged under the above orders are *essentially* sthenic or asthenic; although they may be so in particular individuals, or in different stages of their progress. Why should hysteria, singultus or stricture, of the order spasmi, be considered essentially sthenic,—and delirium tremens, dyspepsia, jaundice, and rheumatism, essentially asthenic? If this were indeed the case, the treatment of disease, by means of a nosological table, would be a far simpler matter than we find it to be without one: but the symptoms, the treatment required, and the morbid anatomy in the various diseases, alike prevent our believing it. We think then the author's system is fanciful, and like all others that we have ever seen, it is vitiated by the grouping together of many diseases having no natural affinity, and the separation of others which should be approximated. We have only space to glance at some of the genera.

The first order *Febres* does not contain Typhus, which is removed to among the *Adynamia*. *Phlegmasia* contains Phthisis, and of course the various *ites*; but we do not see why Apostema (Abscess) should be elevated into the rank of a genus, when it is only one of the results of inflammation. Erythema and Erysipelas have been properly removed from among the *Eruptions* to this order, although the same observation will not apply to Lepra, which is placed among the *impetigines*. Of the *Impetigenes*; the author says:—"this order contains diseases depending upon specific poisons, which being once introduced into the system, continue to infect and propagate;—that is they do not run out their course in a limited time, like small-pox, leaving the system free, but, on the other hand, overcome the constitutional restorative powers, and yield to nothing but art." He enumerates three genera—Syphilis, Lepra, Elephantiasis, a number obviously too small or too great. Among the *Hæmorrhages* we find Sanguineous Apoplexy placed. The order *Spasmi* ("Abnormal muscular action: generally from the involuntary reflex action of the nerves, from irritation or injury of their peripheral extremities"), contains fifteen genera, among which are Wry-neck, Tetanus, Chorea, Hysteria, Epilepsy, Pertussis, Asthma, Colic, and Stricture. *Dysorexiæ* or depraved appetites, contains Bulimia, Polydipsia, Pica, and Salacitas: and *Vesania*, Hallucinatio Iracundia and Mania.

In the second class we have as the contrast of *Febres*, the *Marcores*, which contains but one genus, Marasmus. The *Adynamia* or "Physiological contrast of the *Phlegmasiæ*," contains twenty-one genera, among which we find Apoplexia *Atonica*, Paralysis, Angina Pectoris, Irritabilitas Nervosa, Typhus, Cholera Asphyxia, Pestis, Dyspepsia, Jaundice, Chlorosis, Gangrene and Necrosis. We are at a loss to perceive the nature of the natural contrast between the *Cachexiæ* and *Eruptiones* (as indeed between several others); this order contains among other genera, Rheumatism, Gout, Calculus, Rickets, the Dropsies, Cataract, Scrofula, Cancer.

Parasitice, contains the Itch, Hydatids, Worms, &c. *Ectopie*, contrasted with Tumors, contains Aneurism, Varix, Piles, Nævus, Intus-susception and Hernia. *Profluxive*, contrasted with active hæmorrhages, contains Epiphora, Gleet, Diarrhœa, Leucorrhœa, Menorrhagia, &c. *Discynesia* ("inefficient muscular action, being neither spasm nor paralysis; but mostly a want of harmony in the action of the component muscles of an organ from nervous defect") contains Stammering, Dumbness, Aphonia, Dysphagia and Angina Pectoris. *Dysæthesie* contains Amaurosis, Dysopia, Impaired Smell and Taste, Deafness, Parapsis and Constipation. *Dementie* contains Nostalgia, Fatuitas, Amentia. To these are added an Appendix of *Symptomatic Affections*, containing Coma, Cephalalgia, Delirium, Emphysema, Hypochondriasis and Nightmare.

It will be seen, that from a nosology thus constructed, little or no assistance is to be derived by practitioner or student. This is no reflection upon its author; he has had to cope with difficulties, which, in the present state of our knowledge are not yet to be subdued, while in some respects his system manifests an improvement upon that of his predecessors. Of the pathology of *fever*, he thus speaks.

"In fever the ganglial nervous power is augmented, as well as, not only nutrition, but the counterpart absorption and redigestion or decomposition of the old material; and as there is deficient appetite, the system is thus left to prey upon itself, the excitement called fever soon merging by exhaustion into a typhoid form. So fever exists not only where the vital actions are excited by the augmented circulation of good arterial blood, but also where the system has preyed upon itself, even when prostration and debility are induced. Hence the typhoid form, and though no definition can well explain both these opposite modifications of fever, yet their separate existence as different states of the same morbid action is perfectly intelligible. For when febrile action is continued, not only is there a quicker expending of the nutritious particles of the blood, but also the counterpart absorption of old material is equally augmented, the nutritious materials being so quickly worked and expended, that shortly there is no longer the proper stimulus for the nervous centres, namely, good arterial blood, and therefore the vitality is depressed, and the patient in a state of low typhus, the circulating fluids being attenuated and the general fibre relaxed, purpura supervening and a tendency to decomposition. Whilst at the commencement of fever, when there was a quick and augmented circulation of good arterial blood going on, the patient was in a state of restless and delirious excitement. Thus, both these opposite states, result from the same morbid action, and where the strong form of fever is allowed to run very high, it soon merges by exhaustion into the low and typhoid form. But art ingeniously directed, can forestall this, and ensure the safety of the patient.

"It is plain that fever manifests itself as an augmentation of the ganglial nervous supply, which governs the circulation and nutrition; also it is equally plain that the induction of faintness averts nutrition in toto. So also that medicines which produce nausea can withhold or diminish the ganglio-nervous supply, and thus afford a strong hold upon fever, in its stages of excitement; and these are the very medicines which also relieve the chief external characteristic of fever, namely, dryness of the skin, therefore fever may be cut short or reduced by artificial means, before defibrinization and exhaustion can take place." 28.

Respecting the pathology of *inflammation*, the following are some of his observations.

"It is the state of obstruction in the capillary vessels which causes the effusion of lymph; and, therefore, also the first process of inflammation. Obstruction in the course of the capillary circulation may occur in the following modes: 1st. If any abnormal deposit take place, such as tubercular matter, when it has considerably accumulated, it may press laterally on the capillary vessels, and obstruct them. If this be the case, it causes the effusion of lymph and inflammation, as will be explained presently. 2. If any portion of the texture of the body lose its vitality, it is an obstruction to the direct course of the vessels; a line of demarcation is formed, and there the effusion of lymph occurs. 3. If continued external pressure be made upon any part of the surface of the body, obstruction of the superficial vessels is the consequence." 39.

For the observations respecting the suppurative and ulcerative processes of inflammation, we have not room; nor do we perceive that they contain any novelty.

The definitions of the various diseases are concise and exact, and the principles of their treatment usually judicious. An appendix upon the relations of the medical profession with the public, proves the author to be an upright practitioner, zealous for the suppression of professional quackery and humbug: but we do not see that this is to be brought about, by such a registration of deaths as would show in which medical man's practice these preponderated, or by a more free criticism of each other's practice in unfavourable cases than is at present permitted by professional etiquette. Agreeing with the author, as to the almost hopelessness of the task of endeavouring to instruct the ignorant public in the better appreciation of who are really conscientious and able practitioners, still we think this would be the only means of improving the state of things he deplures.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

OBSERVATIONS ON THE MANAGEMENT OF MADHOUSES, PART THE SECOND. CONTAINING AN ACCOUNT OF SUSANNAH ROGINSON, &c. &c. By Caleb Crowther, M.D. Formerly Senior Physician to the West-Riding Pauper Lunatic Asylum. Simpkin and Marshall. London, 1841.

Dr. Crowther must be a perfect bugbear to madhouse keepers. He does not spare them. From the larceny of a pig or a pot of beer up to chaining, torturing, or seduction, he hunts them through all their wickedness. He writes always in a passion. We would not for the world pick a quarrel with Dr. Crowther. His very name is severe.

We cannot go through Dr. Crowther's case or his strictures, and must content ourselves with pointing out one or two of the abuses he denounces, or things he recommends. Among the desideranda in Lunatic Asyls, is a well regulated series and system of *manuscript books containing the history and treatment of the patients.*

Dr. Crowther observes:—"Making reports in writing at every visit adds greatly to the daily labour of the attending physician, on which account it has been too much neglected. The governors of madhouses ought, therefore, to afford every facility to physicians who have taken the trouble to make correct written reports, for the purpose of enabling them to form summaries of their medical practice. The object of these remarks is to show that the West-Riding Visiting Justices have made an order calculated virtually to prevent every physician from making any use of his own reports. This order prevents the books, containing the reports, from being removed from the asylum, and no medical man in actual practice can afford to spend so much time in an asylum as will be required to draw up a correct Report. In order to encourage the young physician to make his Reports uniformly in writing, I beg leave to suggest to him, that independent of the advantage that will accrue to medical science, he will derive personal advantage from such Reports. They will preserve him from unjust attacks from inferior officers, and from incorrect judgment from uninformed Visiting Justices.

Some time after I resigned the situation of Physician to the West-Riding Pauper Lunatic Asylum, I applied to one of the Visiting Justices for a loan of the books containing the Reports of the cases of the patients treated by myself. I received a written order for this purpose, which the Director refused to comply with. I have since heard, that at a subsequent meeting of the Visiting Justices, an order was made to prevent the books from being removed from the Asylum. The application for this order, I hear, was made by the Director. The reasons given for this application were, that the books were liable to be injured, or lost, or wanted for reference, when allowed to be removed from the Asylum. Had the Visiting Justices deigned to hear both sides of the question, they must have arrived at a very different conclusion. Their order is calculated to frustrate the object for which the books were provided. The purpose which I had in view when I made application for the books, was to make a Report of some cases occurring in my medical practice, during the eight years that I attended the Asylum as one of the physicians. To the most ignorant it must be obvious that no man can be so capable of drawing up such a Report as the individual who treated the patients.

The results of hospital practice may, it is true, be given by another; but no one, except the medical practitioner himself, can furnish the reasons which led to a certain practice, nor the causes which favoured its success, or contributed to its failure. No physician in actual practice can afford to spend so much time in an Asylum as will be necessary to obtain the abstract and details requisite for a medical report, but there are many half-hours, or hours, which at home he may be able to devote to this work. Instead, therefore, of throwing obstacles in the way, it is obviously the duty of the Visiting Justice to promote the correct execution of such a work, by affording every possible facility to the physician."

Of the Causes which prevent the ready detection of Abuses in Madhouses.

First and foremost of these, Dr. Crowther justly places irresponsibility to public investigation and public opinion. This particularly applies to the visiting justices of an asylum.

"Fearful of losing power, and jealous of each other, they have never yet formed a sub-committee, to whom intricate and important business should be submitted previous to a general meeting, as well as all casual business occurring in the intervals between the regular meetings.

The consequence is, that the Director may secure to himself almost the entire control of an Asylum. The late Director Ellis told me, that if he wanted to obtain any particular object, he applied to one of the Visiting Justices, and persuaded him to sign a written order for it.

In whatever manner one Visiting Justice may have decided, it is, I believe, contrary to etiquette for the body of them to reverse the decision. In this way, not only in casual emergencies, but in daily occurrences, the Director, by applying not to one of the wisest among his masters, but to one who is fondest of power, to one whose ear he has gained, to one with whom he has lived on terms of convivial intimacy, may obtain whatever he wishes for, and secures for himself an ardent defender, however improper may have been the application. Instead of being impartial judges, although in their general conduct in life honest and honourable men, they act as advocates for their friends, and by law no appeal is allowed to the Quarter Sessions or Assizes, however partial or unjust may have been their decision. Self-election serves to perpetuate the evils which clannism among the Justices, and personal intimacy between the governors and governed, have introduced. The appointment of Visiting Justices by rotation, as in Middlesex, is infinitely preferable to self-election.

To convict a public officer in a madhouse, (who has gained the ear of the Governors), of the most palpable crimes, is as difficult as in an unreformed parliament it used to be to convict a member of bribery. Formerly the Justices decided in cases of dispute between the different officers, without confronting the accuser and the accused.

Many other causes contribute to screen a favoured public officer who has done wrong; besides his being protected and defended by his personal friends among the Justices. The investigation or trial takes place in private, instead of being in open court.

There is no public prosecutor, unconnected with and independent of the Asylum, employed to sift out and bring forward the evidence. No previous arrangement is made calculated to elicit truth. The witnesses, being permitted to remain in the Asylum for days before the investigation takes place, are liable to be tampered with, brought forward, or suppressed, as may best suit the interest of the party to be tried.

The Clerk to the Visiting Justices, the person usually employed, besides being dependent upon and subservient to them, is, perhaps, the most intimate friend of the accused. Admitting him to be one of the most upright and honourable among his class, it is impossible for him, under such circumstances, to exercise an unbiassed judgment. Instead of being of counsel against the accused, he

insensibly becomes the advocate of his friend. This he may be safely, because there is no one opposed to him to cross-examine the witnesses.

Should any witness of an unblemished character dare to give evidence, criminating a favoured delinquent, he is liable to be calumniated and abused, brow-beaten, bewildered, and dismissed with loss of character; there being no advocate to support him, or to prevent improper and harassing questions being put to him. Under such circumstances, there may be the semblance of a fair trial, when all the most important part of the evidence has been concealed.

Supposing that the strongest evidence be adduced, of the Rules and Regulations having been violated; or that it be proved that persons have, at the County expense, been boarded and lodged at the Asylum for many months together; or even that presents have been accepted from individuals who have received such favours,—what would be the result?

The affair would be overlooked—would be passed over without notice—if a favoured officer were concerned in it; but if a farmer, gardener, keeper, or domestic servant, were to do such things, he or they would be immediately dismissed with loss of character. Thus discontent and dissatisfaction are generated in the Asylum from a persuasion that the laws are not equally administered. To render an investigation efficient, a regular order or method of examination ought to be adopted. The business ought to be commenced by examining the chief officers belonging to the Institution: afterwards let the inferior officers and domestic servants be examined in due order. Being uncertain with regard to the evidence which may be subsequently given, the superior officers will be more cautious with respect to their own; they cannot adjust their own to the case in hand. The greater the guilt, the greater will be the effort to conceal it. Unprincipled minds have much greater fear of being detected, than of committing a crime. Notwithstanding the efforts used by those who have abused their trust in Madhouses, in order to impose secrecy on servants, and to impeach their veracity when they cannot silence them, truth will occasionally ooze out. The attempt to prevent public servants from giving information respecting occurrences and events which they have witnessed, contrary to good morals, and contrary to the rules and regulations adopted in well-regulated hospitals, is itself *prima facie* evidence of guilt. It is to prevent combinations of this kind, that daily visitors become absolutely necessary, and have been generally appointed in all our best-conducted hospitals."

Daily Visitors.—By the idle, the inhumane, and the negligent public officers in madhouses, no set of people are so much detested as daily visitors. On the contrary:—to the diligent, the upright, and benevolent, occupying such situations, they are highly acceptable; they co-operate in preventing neglect, fraud and peculation, and in this manner diminish the labour and responsibility of the Hospital Superintendents;—they contribute to the comfort and cure of the patients, to the protection of good officers and servants, and to the detection of bad ones;—they promote impartiality in the administration of justice, by furnishing correct statements respecting matters in dispute;—they prevent waste and peculation;—they detect licentiousness and crime.

The duties of the Daily Visitor are to watch, observe, and report upon the conduct of all the individuals, whether officers, servants, or patients, attending or inhabiting a public hospital. It forms no part of their duty to give orders or to interfere with the occupation of any one. They report what they see amiss, or what they see worthy of praise, in a book appropriated to that purpose; and when required, they attend the Governors, in order to explain and substantiate their reports. The Daily Visitor is admitted at all hours, from the time when the patient rises, until he goes to bed. To insure cleanliness, he visits every part of the hospital, he examines every nook and corner;—he examines all the provisions in the house, cooked and uncooked, and sees that the patients get the proper quantity allotted to them of good and wholesome food;—he examines, also, the furniture and clothes;—he notices the violations of the rules and regu-

lations;—he notices the neglect, absence, or misconduct of every officer or servant;—he uses his best endeavours to prevent waste and peculation;—he inquires whether any person, who is not a patient or a pauper lunatic, resides in the house.

“If I be asked, how are we to obtain male and female Visitors able and willing to perform such duties, I beg leave to refer to the former part of this work, page 90, for a satisfactory answer. Some of my readers may be startled at the suggestion that Daily Visitors can in any way contribute to the cure of the insane. The paradox, however, is not less true than strange. The deranged generally imagine that they have been confined without just cause, and consider every person hostile to them who opposes their liberation. They fancy that the Physician, the Director, the Matron, and the Nurse have an interest in what they say and do, unconnected with the welfare of the patient. Even in early stages of the disease, it affords relief and comfort to the lunatic to find, that he has a friend and a guardian who will listen to his complaints, and encourage him with the hope of speedy recovery. It often happens that these complaints regarding their food, their restraint, and the conduct of the officers and keepers, are completely groundless. It is impossible to trouble the Visiting Justices with matters of this kind. For this purpose an intermediate set of officers is requisite, i. e. Daily Visitors. If then, when the first dawn of reason, the first lucid interval occurs, the patient discovers that he is frequently visited by a friend, a protector, who has no interest except in promoting his welfare, and no motive for attending the Asylum except for his protection, one great source of mental irritation dies within him, and hope and confidence occupy the place of despair, and he now rapidly recovers.

Daily Visitors are of great use in protecting and encouraging good officers and servants, and in exposing bad ones. Where one person only in a madhouse has the ear of the Visiting Justices, he may tyrannize over and insult all the rest with impunity. It is true that a servant discharged by the Director has the power of appealing to the Visiting Justices, but at present his chance of succeeding against the influence of the Director will be very small indeed, whatever be the merit of the case. With the assistance, however, of the Daily Visitor, the position of the servant is materially changed. The Daily Visitor becomes acquainted with the general character and conduct of every person in the house. If a charge be brought against a servant, at variance with his general conduct, he examines the case narrowly, and will generally succeed in developing its merits. Under such circumstances it will not be very easy to illtreat an honest servant, or to promote and patronize a bad one. Supposing that all the servants should receive orders to tell no tales, which in plain English means that they shall tell no unpleasant truths, where there are no Visitors they know very well that if they disobey or be suspected of disobeying, they will not be discharged perhaps for telling an unpleasant truth, but they will be so harassed and provoked in various ways, that their situation will not be any longer tenable; and this may occur when they have acted very meritoriously in discovering peculation or crime.”

Dr. Crowther's Observations on Haslar Hospital, St. Luke's, Bethlem, and Hanwell.

Dr. C. visited these in August, 1840.

Haslar Hospital, a noble building, worthy of the first maritime power in the world, not being wanted for the sick and wounded in the navy, during the time of peace, has been fitted up in a temporary way for lunatics, both officers and men belonging to the navy. At the time of his visit, this Hospital contained about 150 patients of this description, three of whom were placed under restraint. They do not here possess the same conveniences for restraint which are to be met with in other Madhouses; they have no separate cells for the noisy and violent patients. Manacles and fetters of iron are still in use here, which might advantageously be changed for leather straps, gloves, and hobbles.

St. Luke's Hospital is a very handsome structure, the galleries are lofty and spacious, and the sleeping rooms large and comfortable; the day rooms, from the position of the windows, appeared to me to be dull and dreary. The greatest part of the patients being unoccupied, were sleepy and listless. The position of the building is bad, being in the midst of a noisy population, which is often injurious to the patients. The kitchens and offices are very defective; the airing courts are small in extent, and few in number. Could the site of this Hospital be sold to advantage, it would be desirable to remove this institution to a country situation, where it might have the advantage of larger airing courts, of a garden, and a farm.

Bethlem Hospital, as far as regards structure, may be denominated the Palace of Lunatics. Although situated in the midst of a dense population, it has no annoyance from without, like *St. Luke's*. It has a greater quantity of ground belonging to it, and is completely detached from other buildings. Its airing courts are spacious, and well supplied with convenient seats, and shelter from the sun and rain; but not sufficiently numerous to allow a proper classification of the patients. The galleries are magnificent; they are long, broad, and lofty, and well lighted, and in some degree compensate for the want of more airing courts. In some parts of the building they were removing the only disagreeable object in these galleries, the large iron bars, and substituting for them iron window frames. The large and lofty sleeping rooms contribute, I have no doubt, considerably to the recovery of the patients. The kitchens and offices are ample and convenient. It is impossible for any building, containing the same number of human beings, to be more cleanly than *Bethlem Hospital* was on the day when I accidentally visited it. I did not visit every cell, but there was no apparent concealment or reserve, great facility was afforded me by the officers for examining every part of it. The water-closets and places where the patients were washed, were particularly clean and inoffensive.

The general aspect of the patients was more healthy than might be expected in so low a situation, and where such a large number are congregated, I was told that the Hospital was generally healthy, and not subject to fever and epidemics. This observation is particularly worthy of notice, because *Bethlem Hospital* is situated near the river, very low, and in the midst of a dense population. If this situation can be made healthy, any other place in the kingdom, where there is plenty of water, and sufficient fall to admit of proper drainage, may be made so. Indeed, I am convinced that a low situation, with plenty of water and good drainage, is preferable for a prison or hospital to high ground not well supplied with water.

Although a much greater number of patients is occupied in some way or other at *Bethlem* than at *Haslar Hospital* or *St. Luke's*, still there is a striking contrast between the great listlessness of many of the patients at *Bethlem*, and the happy activity of those at *Hanwell*. The establishment of keepers and nurses at *Bethlem* appear to be well selected; they are active and efficient, but inferior to those at *Hanwell*. The governors and officers at *Bethlem Hospital* pride themselves upon what has been the greatest bane to that institution, i. e. upon their exemption from public control and visitation. Formerly it was very difficult to obtain permission to visit this place; now there is no obstacle to prevent visitation. From all that I saw in a cursory visit of two hours, I was induced to believe that there is now nothing which requires concealment; nothing of which they need be ashamed. The neglect and disorder in which *Bethlem Hospital* was found at the time of the Parliamentary investigation, had its origin no doubt in the privacy which had been maintained there; and for the improvements which have taken place, we are indebted to the frequent exposure by the public press of the abuses which have formerly existed there.

Assuming that the site of *Bethlem Hospital* is healthy, there ought to be a greater number of cures effected there in proportion to the admissions than in any other asylum, excepting those only confined to the reception of recent cases.

The star of Bethlem has long been under a cloud; it has now, however, again become brilliant, and is likely to maintain a conspicuous position among its competitors. At the anniversary festival of the Bridewell and Bethlem Hospitals, held in July, 1840, Sir Peter Laurie, the president, stated, that during the year, 185 had been cured and restored to society. This is highly creditable to the institution, making the number cured amount to 61.66 per cent. This could not have been effected without great attention and exertion on the part of the medical officers. Emulation and competition are now, I trust, likely to become the order of the day throughout all our public metropolitan Madhouses. As far as I am capable of forming a judgment from our statistical details relating to insanity, I do not think it probable that the number of cures under the most favourable circumstances, can ever exceed 70 per cent. It is therefore highly honourable to the officers belonging to the Bethlem Hospital to have made such a near approach to that number. If it be possible to exceed it, it must be in districts where excess is unknown, and civilization much farther advanced than it is at present.

At *St. Luke's*, the number of cures for the year 1839, was, among the men, 46.5, among the women, 69.7, making the average of both 58.1 per cent. This account is taken from the list of patients whose treatment has been completed. The same kind of cases are admitted into both hospitals; whether or not the cures are estimated in the same way the high-minded irresponsible Governors at Bethlem do not deign to tell us; they publish no annual reports. Considering the disadvantages under which *St. Luke's* labours, the number of cures effected is highly honourable to that Institution. It is remarkable that among the females the amount of cures has been within a fraction of 70 per cent., the number fixed upon by Dr. Crowther as the probable maximum of cures.

Hanwell.—"With every thing which I saw at Hanwell I was highly gratified. The situation is elevated, appropriate, and beautiful; the quantity of ground ample, and well laid out; the buildings lofty, spacious, and convenient; the airing courts numerous and cheerful, with suitable conveniences for rest and shelter. The kitchen is the finest thing of the kind which I ever saw. It is very large, lofty, and well lighted, and replete with almost every conceivable convenience. The gardens are extensive, and well cultivated. The workshops are large and well suited for the different purposes for which they have been erected. There are not perhaps so many square feet of air at Hanwell appropriated to each patient as at Bethlem, but the superiority of the situation will no doubt more than compensate for the difference. There is besides, what is of primary importance in all such institutions, an inexhaustible supply of pure water, unaccompanied with stagnant pools or a humid atmosphere.

The keepers and nurses are of a superior order to what I have seen elsewhere. They excel in stature and muscular strength, in personal neatness and dress, in language and manners.

I accompanied Drs. Conolly and Begley in their ordinary morning visit round the Asylum. The patients were very neat and clean, and a great number of them being engaged in work of various kinds, gave an appearance of cheerfulness and animation to the scene, which we shall look for in vain in situations where they are furnished with no employment. They appeared to be less rude and better educated than the pauper lunatics in the north. Their general behaviour towards the Physicians was civil and respectful; they did not seem to stand in awe of them, but received them with evident pleasure and satisfaction as friends coming to administer relief and comfort to them.

Whether the entire abolition of all instruments of restraint will prove advantageous and practicable, I have not had sufficient experience to determine; but of this I am certain, that the public is greatly indebted to Dr. Conolly for making the experiment on a large scale."

Dr. Crowther, though he does seem rather too wroth, is calculated to do a great deal of good.

AN ESSAY ON THE CHEMICAL, BOTANICAL, PHYSICAL, AND PARTURIENT PROPERTIES OF THE SECALE CORNUTUM; with an Engraving. By T. H. Wardleworth, Surgeon. Simpkin and Co., 1840.

It is not a little curious that a fungoid excrescence on an ear of corn should have gained, and in a short period of time, a European and indeed a universal reputation for its specific powers over a particular organ in the human body! Yet such is the case. The discovery of its physiological effects belongs to America, and was probably fortuitous. Its chemical composition is as follows:—In one hundred grains of the secale there are 31 of a thick white oil—5½ of osmazome—9 of mucilage—7 of gluten—11 of fungin—3½ of colouring matter—26 of fœcula—3 of salts—loss 3½. (Wright's Analysis.)

That such a compound should possess the peculiar property of acting on the muscular fibres of the uterus, and thus expelling the fœtus, is one of the arcana of nature, and may lead us to hope and believe that thousands of potent remedies are yet undiscovered.

"If an infusion of the powdered Ergot be made, and kept covered for a few seconds, on removing the cover should the infusion have assumed a deep pink colour, and the whole of the Ergot having settled to the bottom of the vessel, its powers, as a parturifacient, may then be depended upon. But should the infusion appear milky, and mucilaginous, with portions of the Ergot floating upon the surface, partly soluble, and partly insoluble; if, under such circumstances as these, the Ergot be administered, its effects are seldom if ever produced."

Mr. W. considers the powder as the only efficient preparation of Ergot. It is supposed that the midwives and old women in Germany and France were acquainted with the parturifacient powers of this curious drug, but its employment by the faculty is only recent. The most opposite and contradictory statements and opinions, as usual, prevail among medical men respecting the ergot. One represents it as superseding the use of instruments in all possible cases; another describes it as the "*pulvis ad mortem*," endangering the life of the mother, and destructive of the vitality of the *child*. A third class of practitioners aver that the ergot is totally inert, and that its effects are purely imaginary! Our author himself, from practical observations, is led to the conclusion that the secale cornutum "has no injurious effects whatever, either upon the mother or the child." Mr. Bower, a practitioner of wide experience in Rochdale, states to our author:—

"Out of 357 cases, of head presentation, in which I have administered the Ergot of Rye, in every stage of parturition, in all states of dilatation of the os uteri, and in many instances of the first child, I never had the slightest reason to regret its exhibition, or believed that it had acted injuriously on the mother or the child, except in two cases. In those cases in which it produced no effect, (being, however, very rare, when properly administered;) or, the effect having subsided without accelerating the delivery, yet I invariably found the labour to progress, or otherwise, as if no interference had been attempted. The children were born alive and vigorous, except where evident signs existed of their having been dead in utero for some time previous to the commencement of the parturient efforts; or where it had been deemed necessary for the safety of the mother, to have recourse to embryotomy, from a contracted or deformed pelvis."

In our author's own practice the ergot has been administered to 1500 patients, without any selection or preference, but "with the most satisfactory results."

"It has been an established practice to administer stimulants in cases of great feebleness and depression; if this be left with the nurse it is often done with indiscretion, if not with injury; but when a considerable degree of faintness is present, with a cold and pallid surface of the body, and the uterine contractions

feeble, attended with depression of spirits; then, under these circumstances, stimulants are called for: there has hitherto been no alternative: whatever may be the future evil the present must be overcome, and those stimulants have been habitually given, which act by the fever they create; but *Secale Cornutum* rouses the system far more certainly than any such stimulant, without raising the pulse; it does not act by a circuitous influence; nor does it induce a morbid arterial action, and thus rouse the torpid powers of the uterus, but its action is direct and specific, and from these circumstances we anticipate its complete adaptation in all natural labours, to the exclusion of stimulants. But we advance a step further, and state that *Secale Cornutum* is not only the most powerful and safe *partus accelerator*, but that it is also a powerful dilator of the *os uteri*."

As an accelerator in natural labour, our author is in the habit of giving 15 grains of the powder in half an ounce of warm water, as soon as the *os uteri* begins to dilate, and he repeats the dose in a quarter of an hour, if uterine action does not follow. It is seldom necessary, however, to repeat the medicine.

"In most cases a very short period elapses after the first dose before pain is referred to the pubic region, striking from thence to the back; the pains are slight at their commencement, and recur every two or three minutes, gradually increasing in strength and frequency till the *os uteri* is dilated to the size of a crown piece; the pains after this gradually decline and frequently altogether subside; when this happens the influence of the first dose may be considered as having passed, affording important information; first, that the influence of the medicine is of a limited duration; secondly, that the gradual manner in which the action advances to its full strength and then as gradually abates, is a safeguard in preventing a rupture of the uterus, and in lessening the tendency to hæmorrhage; the slight action at first, prepares the uterus for what follows. The pains having nearly ceased, the patient is in a fit state for a second dose which should be stronger than the first, but not exceeding one drachm, (we have in many cases given two scruples with success,) which renews the action of the uterus, and the child is in a short time expelled."

Mr. W. has followed this practice for twelve years, "and in that period his confidence in the drug has been, without interruption, increasing." Much suffering, he observes, much anxiety, and much time have been saved. But the ergot is applicable to other cases than natural labour. In two cases where premature labour was desirable, he used it with success.

"Both cases were at the seventh month, and to both the draught was administered three successive days, at the end of which time labour commenced, and in ten hours terminated; happily both mothers and children did well. Both the women had a distorted pelvis to an extent which rendered the operation of craniotomy necessary in their previous labours, one having been pregnant three, the other four times: so that the lives of two children have been thus saved to the credit of the means made use of, and with more safety to the patients than any method previously within the power of the medical attendant."

In uterine hæmorrhage, our author considers the ergot as of the first importance, by checking the flow of blood, during or after parturition.

"In presentations of the placenta attended with deficient uterine action, with a considerable degree of depression of the vital powers, I have given the Ergot with the view of inducing that permanent contraction which is so essential to the patient's security."

In descents of the umbilical cord, so low in the vagina as to cause obstruction of the circulation and consequent death of the child, our author has found the ergot of essential service, by insuring speedy delivery.

Numerous cases are detailed in this practical and unpretending little brochure, which ought to be in the hands of every obstetric man in the profession.

A PRACTICAL TREATISE ON DISEASES OF THE LIVER AND BILIARY PASSAGES. By *William Thomson*, M.D., Physician to the Edinburgh Royal Infirmary. 8vo., MacLachlan and Co. Edinburgh, 1841.

THE greater part of this monograph has already appeared in that excellent publication, "The Library of Medicine," edited by Dr. Tweedie, and this circumstance must, of necessity, curtail the range of the present volume, notwithstanding that the "author has been enabled to discuss several topics more fully than was permitted by the limits of that work." The arrangement has also been remodelled, and the value of the book, no doubt, much enhanced by the separate form of publication.

Although there have been many detached papers and essays on hepatic affections during the last 30 years, yet, since the time of Saunders, no complete treatise on the subject has appeared in this country, till the present work was published. The *title* would have been more correct had it included *disorders* of the biliary apparatus, which, in this country at least, are fifty times more numerous than *diseases* of the same. There is not, perhaps, a more widely extended error in pathology, throughout all grades of the profession in Great Britain, than that which respects the supposed prevalence of hepatic *diseases*. Whether Saunders or Currey, or Abernethy, or the host of East India practitioners that have come to reside in this country during the last thirty or forty years, may have originated or sustained this hepato-mania, we do not profess to know; but of this we are certain, that "LIVER-DISEASE" is applied every day to *disorders* of stomach, duodenum, and colon, where even the function of the liver is scarcely implicated, much less its structure. But this is not all. We every day see patients who represent themselves as labouring under "enlargements of the liver," when we find that one of the bellies of the recti muscles has been set down as hypertrophy of the biliary organ.

The work before us is an excellent compilation on the subject of hepatic affections, functional and structural; and, as such, it is infinitely more valuable to practitioners and students than any original essay, however ably executed. But this very circumstance disables us, or any journalist, to offer an analysis of the volume. If we extracted or condensed that which is compiled from others, we should be wasting our time, and if we picked out portions of the original matter we should be doing great injustice to the work itself, by unravelling the thread by which the compiled materials are held together. We cannot do better, therefore, than strongly recommend the work as the best in the English language on the important subject of which it treats. There is one feature, however, in the book which we will just glance at. The able author seems to be afflicted with a complaint not very prevalent in this country, though almost universal on the Continent—the HYDRARGYROMANIA. Dr. Thomson has handled this part of the subject with great adroitness—very much in the way which a clever barrister states the case of his client to a jury. The Doctor, however, is more fortunate than the lawyer in this case. The latter is sure to be met by a counter-statement from his brother barrister, that greatly alters the complexion of the case; whereas Dr. Thomson has it all his own way, and certainly he makes the best of it. There can be no doubt that mercury has been abused both in tropical climates and here at home; but we should be extremely sorry to see it discarded from the Pharmacopœia, or an unreasonable prejudice set up against one of the most valuable remedies which we possess.

REDSTONE'S GUERNSEY GUIDE; OR, THE STRANGER'S COMPANION FOR THE ISLAND OF GUERNSEY, &c. &c. Duodecimo, pp. 142. Guernsey, 1841.

THIS is a useful little guide to those who visit one of the chief of the Channel Islands; but we can only notice that part of it which relates to climate, in a medical point of view, and which is written by Dr. Hoskins, one of the principal physicians of the place.

Sir James Clark likened the climate of the Channel Islands to that of the adjacent coast of France; but Dr. Hoskins thinks it more correct "to consider the climate of Guernsey as intermediate between that of the adjacent coast of France and the south-western districts of England." It is more mild in Winter than the *former*, and warmer at all seasons than the *latter*, "assimilating more closely to Penzance, and possessing the same peculiarity—warmth during the night." Not a trifling advantage of these islands is that of furnishing *luxuries* at a cheaper rate than the *necessaries* of life can be procured in most other places to which invalids repair.

The temperature is subject to frequent, but not great vicissitudes—the thermometer seldom rising above 80, or falling below 35°—never remaining long stationary, at or below the freezing point. The prevailing winds are westerly; but between the vernal equinox (21st March) and the first week in May, keen easterly winds are frequent, which invalids ought to respect.

"To compensate, however, for these keen though gentle breezes, the usual concomitants of a British spring, the Guernsey summer is delightfully bland and temperate, and its delicious autumn encroaches smilingly into the month of November. So fine is the weather generally for about six weeks, at this season, that it has been proverbially denominated, 'Le petit été de Saint Michel.' From this period until January, the weather is mild but variable, with high, though not cold winds from the westward, accompanied by rain; a combination called in the vernacular, 'Tempe de Guernesey.' If there happens to be any cold weather, brief intervals of it now occur until late in February, when bland weather and often warm sunshine prevail, until the middle of March brings a return of the periodical gales."

An unfounded idea prevails that the climate is humid and relaxing; but the annual number of entire wet days are few, and, on the whole, less rain falls in these islands than in England. The rain that does fall is in heavy showers, quickly succeeded by sunshine. The climate is considered by Dr. Hoskins as decidedly healthy, the islands being subject to no other epidemics than those of infantile diseases—and these are generally mild in form, and tractable in treatment. Dyspepsia, especially among the country-people, appears to be the most prominent malady, owing, Dr. H. thinks, to bad diet among the peasantry.

"The efficacy of our bland atmosphere in dry bronchial cough has long been acknowledged; it also proves serviceable in almost all cases of irritation in the air-passages, whether accompanied by increased secretion or not. It is eminently beneficial in 'dry asthma,' not merely palliating the symptoms, but, in young persons especially, ultimately overcoming the predisposition to the complaint. To discuss the merits of the climate in consumptive cases would be idle; change of atmosphere can only avail in the earliest dawn of the malady, and that change should be to a decidedly warm temperature. In the advanced stages the advantages should indeed be great, which induced a patient to forego the comforts of home, increased as they are by present improved methods of regulating temperature, for the questionable benefits resulting from a change even to a more genial climate."

We are much obliged to Dr. Hoskins for his concise but interesting sketch of the climate of the Channel Islands.

THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Edited by Robert B. Todd, M.D., F.R.S., &c. Illustrated with numerous engravings.

THE present number of this Cyclopædia appears to us a very good one. All the articles are written with care, and contain in their respective spheres an extensive amount of information. The very nature of the subjects precludes us from any circumstantial account of them. But we would select one or two passages for notice.

ANIMAL LUMINOUSNESS is exhibited in a clear manner by Dr. Coldstream. This property of emitting light is almost confined to invertebrata, chiefly marine. We have accounts from several naturalists of certain *fishes* having been seen to give out light while in their native element, and some have conjectured,—but on insufficient grounds,—that all fishes do so. The turtle and a species of toad inhabiting Surinam have been reported to have the same property; and the eyes of some carnivorous mammals appear to emit flashes of light. But we find this function constantly and distinctly manifested only by certain mollusca, insects, crabs, annelida, acalephæ, and zoophytes. The sharks, more frequently than other fishes, are reported as luminous. The light given out by them is said to proceed from their abdominal surface. When large shoals of fishes are swimming rapidly, flashes of light, broad and deep, are sometimes seen about them and are supposed to be emitted by the fishes themselves. These appear occasionally at very great depths. They have been traced in the British seas to shoals of herrings and the coal-fish; and Dr. McCulloch enumerates also the pollack, the pilchard, the sardine, the whiting, the mackarel and the gar, as being sometimes accompanied by these lights.

Characters and Properties of Animal Light.

It is only in its most obvious qualities that animal light has hitherto been the object of scientific research. In colour and intensity it varies very much at different times in the same animal, and still more in different animals. With regard to *colour* the following varieties occur. In *pholas dactylus* the light is bluish-white; in *lampyris noctiluca* it is greenish with a shade of blue; in *l. italica*, bright blue; in *Elater noctilucus*, brilliant green, with spots of “the most beautiful golden blue;” in *Fulgora pyrrhorynchus*, deep purple and scarlet; in marine animals generally it is white with various shades of blue. Doubtless these differences depend chiefly upon the various colours of the integuments through which the light is seen.

In *lampyris italica*, there are alternate emissions and extinctions of the light, which take place with some degree of regularity and seem to be synchronous with the pulses of the circulating current, visible in the wing-cases of this beetle.*

The fire-fly (*Elater*) shews two kinds of light; one constant, like that of the glow-worm, but more feeble: the other a vivid white light suddenly intermitted. Its illuminating power seems to be greater than that possessed by any other animal; the light emitted from its two thoracic tubercles is so great that the smallest print may be read with it; and in the West Indies, (particularly in St. Domingo, where they are abundant,) the natives use them instead of candles in their houses. They also tie them to their feet and heads in travelling at night to give light to their path through the forest. The intermitting of the light in

* A species of *lampyris* lately found in New Holland is said also to shine in rhythmical pulses. *Isis*, vol. ii. p. 245.

this insect is such as to give an observer the idea of a membranous veil being suddenly drawn over the source of light, and then as suddenly withdrawn.

In a species of cancer seen by Smith in the Gulf of Guinea, the light (which seemed to be emitted by the brain) was of a deep blue colour when the animal was at rest; but when it moved, bright coruscations of silvery light were darted from it in all directions. The light of some centipedes inhabiting the islands of the Pacific is of a beautiful emerald-green colour. It is connected with a mucous matter covering the animal, which may be rubbed off by the fingers, and communicates to them a smell not unlike that of muriatic acid.

Sometimes the light proceeding from the sea is so white and dull as to give the effect of a sea of milk. This is frequently seen in the Gulf of Guinea, and seems to be caused sometimes by the presence of numerous *Salpæ* and *Scyllari*, at other times by the admixture of the *debris* of fishes and other marine animals recently dead.

An extraordinary series of phenomena connected with a particular display of the luminousness of the sea, is reported by Mr. Henderson as having occurred in the Atlantic, (lat. 2° long. 21° 20' W.) on the 5th March, 1821. About 9 p.m. the sea appeared unusually luminous. Every person who kept his eye fixed upon it for but a short time was immediately affected with giddiness, headache, pain in the eyeballs, and slight sickness. Although these symptoms varied in intensity amongst the spectators, yet there was not one on board who did not feel some degree of them; and all imputed them to the effect of the light proceeding from the surface of the ocean. Mr. Henderson remarks: "For my own part, the headache, &c. which followed immediately my looking at the water, was particularly severe, nor did it go off until morning. The effects I experienced were like those produced by smoking too much tobacco."

There have been recorded some accounts of very intense light produced over a great extent of the ocean's surface by luminous animals, but it does not appear that any other voyagers have experienced physical effects from the light such as are described by Mr. Henderson. The great intensity with which it is occasionally produced by marine animals, however, is well illustrated by the descriptions that are given of the moral emotions with which it inspires the beholders. Witness, for instance, Mr. Bonnycastle's description of a scene which he met with in the Gulf of St. Lawrence, (7th Sept. 1826.) While it was very dark, a brilliant light, like that of the Aurora, was seen to shoot suddenly from the sea, in a particular quarter. It spread thence over the whole surface of the water between the two shores of the Gulf: and shortly there was presented "one blazing sheet of awful and most brilliant light." "Long tortuous lines of light showed many large fishes darting about as if in consternation at the scene." The light was sufficient to enable one to see the most minute objects on the ship's deck. On drawing up a bucketful of the water, and stirring it with the hand, it presented "one mass of light, not in sparkles as usual, but in actual coruscations."

Messrs. Quoy and Gaimard state that in handling luminous marine animals while alive, they have always been sensible of an odour proceeding from them similar to that which is perceived around a highly charged electrical apparatus.

The only observation with which we are acquainted that seems to indicate the evolution of heat in connexion with the light of animals, is that reported by Macartney, who states that he found the thermometer raised by two or three degrees when placed in contact with a group of living glow-worms shining, or even with their light-giving sacs cut off. The repetition of this experiment, however, has not produced the same result in the hands of others: they saw no rise of the thermometer.

By far the greater number of luminous animals with which we are acquainted are natives of warm climates; but those inhabiting the ocean are seen in almost all latitudes, even in the coldest; although in these they are not so numerous,

and give less light. No aërial insects give out light, in ordinary circumstances, excepting at a temperature of about 50° Fahr. and upwards; and the higher the natural temperature, the brighter is the light emitted.

Marine luminous animals very readily emit their light on being struck by any moving body; so that one of the most commonly observed phenomena connected with this subject is the sparkling of the minute *medusæ* and other animals, swimming on the surface of the sea, when they are dashed against the sides of a ship, struck by an oar, or tossed on the foamy crests of the waves; and this even while no other light is seen excepting just at the points where the water is agitated.

When any loud noise is made near a luminous insect while shining, it frequently ceases to give out its light.

With regard to insects, we have many concurrent testimonies to the fact that more light is emitted during the season of procreation by most of the species than at other times.

That the luminous function is in many animals directly under the control of their will, seems to be proved by the fact, that while under any sudden irritation calculated to alarm them, they, at first, emit light strongly, yet on the frequent repetition or continuance of the same kind of irritation, they extinguish their light, and cannot be excited to shew it again for a considerable time.

Effects of Extraneous Circumstances.—Light giving animals being removed from their natural situations, and subjected to artificial processes and agents, are found to have their luminousness affected by being exposed to, 1. the effects of accumulated electricity and electrical currents; 2. immersion in various fluid and gaseous media; 3. pressure of their bodies; 4. removal of their luminous organs, and mutilation of these and of other organs; 5. exposure to various degrees of heat and moisture; 6. immersion *in vacuo*; 7. removal from all foreign sources of light.

The luminous organs may be cut out from the bodies of glow-worms and fire-flies without the peculiar property of the organs being immediately destroyed. The emission of light can for some time be re-excited by slight mechanical irritations; as by touching the organs with the point of a pin. Those of the glow-worm have been seen to shine for two or three days after excision, when slightly moistened with water, heated or electrified. In experimenting on the same insect, Todd found that the light was extinguished within six minutes after the head was cut off; as also when the luminous rings were cut into, but was renewable by the application of heat. Sheppard removed the luminous matter from a glow-worm; the wounds healed within two days, and the body became again filled with new light-giving substance.

If luminous insects be confined in a dark place, they shine little in the early part of the day, but long before night they begin to do so; although generally, in their native situations, they do not emit light until the twilight. If the confinement in a dark place be protracted, they do not shine so brightly as after having seen the sun during the day.

Anatomy of Light-giving Organs.—The researches on this head are imperfect. The following are the results obtained by Macartney and Spix from their dissections of the glow-worm, the fire-fly, and the lantern-fly.

In the glow-worm, there is spread over the internal surface of the segments of the abdomen a yellowish substance of the consistence of paste, which is thickest in the middle of each segment, and terminates near each margin by a wavy outline. It is of a closer texture than the fatty matter, but otherwise resembles it. Besides this substance, the last segment is furnished internally, just beneath the most transparent part of its integument, with two small round bodies, lodged in depressions, which contain yellow matter of more close and homogeneous texture.

Müller and Murray describe these round bodies as "two small ovate sacs, composed of thready membranes, and filled with a soft yellow pasty matter." Under the microscope, they appeared to Macaire to be composed of numerous branching filaments, with minute granules adhering to them. It is from points of the surface corresponding to the situation of these round bodies that the light is most constantly and most brightly emitted. When dry, these luminous organs have somewhat of the appearance of gum. The dried matter is translucent and yellowish, becomes darker on being kept, and appears to be granular in its structure. Its specific gravity is a little greater than that of water.

In the fire-fly, the internal concavities of the yellow spots of the corselet, whence the light proceeds, are filled with a soft yellow substance, oval in shape, and of very uniform consistence and density. This, under the microscope, appears to be formed of a large number of very minute parts or lobules, closely pressed together. Around these oval bodies, the fatty matter of the corselet is arranged in a radiated manner. Spix describes the same organs as "yellowish glandular masses, into which many branches of the trachea enter." In *elater ignitus* the masses of luminous substance are extremely irregular in their figure; they are situated close to the posterior angles of the corselet, and are more loose in their structure than the same parts in *elator noctilucus*.

The luminous proboscis or snout of the *fulgora* is hollow, and has a free communication with the external air by a narrow slit situated near the base of the organ. Its cavity is lined with a fine membrane, between which and the outer translucent corneous crust, there is interposed a soft tissue of a pale reddish colour, arranged in lines longitudinally, which is supposed to be the seat of luminousness in this insect.

Theories of Animal Luminousness.—Out of seven, the following three appear the best.

5. That a fluid containing phosphorus is secreted by the luminous organs, and shines on its being exposed to the oxygen of the air introduced by respiration. (Darwin, H. Davy, Heinrich, Treviranus, and Burmeister.)

6. That the luminous organs concentrate and modify the nervous influence so as to form it into light; so that, according to this theory, animal luminousness is an effect *solely* of vital power. (Macartney and Todd.)

7. Tiedemann thus expresses his opinion: "Animal luminousness would seem to depend on a matter, the product of the changes of composition accompanying life, and, to all appearance, secreted from the mass of humours by particular organs. This liquid probably contains phosphorus or an analogous combustible substance, which combines with the oxygen of the air or of aerated water at a medium temperature, and thus produces the disengagement of light. The preparation and secretion of this substance are acts of life, which change, augment, or decrease by the influence of external stimulants, whose action on the animals modifies their manifestations of life. But the phosphorescence itself depends on the composition of the secreted matter and cannot be regarded as a vital act; because, on certain occasions, it continues for whole days and even after the death of the animal."

Our author leans to that of Macartney and Todd, but is obliged to prop himself on the chemical too.

Uses of Animal Luminousness.—We know nothing certainly with regard to the uses of the light-giving function; but as almost all observers have remarked that male insects seem to be attracted towards their mates by the brilliancy of the light emitted by the latter, it has been generally supposed that the luminousness is subservient to the generative function. Although it may be so to a certain extent, it is obviously not essentially connected with it, even in the glow-worm; for the light endures long after the season of love is past. Some have con-

jectured that the light may sometimes be the means of preserving its possessors from the destructive attacks of enemies. Thus Sheppard observed a large beetle running round a shining *scolopendra*, as if wishing to attack it, but seeming to be scared by the light. We may imagine, also, that the light enables its possessors to see surrounding objects at night, and so to thread their way in safety through the darkest places.

Considering that, in the ocean, there is absolute darkness at the depth of 800 or 1000 feet, at least that, at such depths, the light of the sun ceases to be transmitted, Macculloch has suggested that, in marine animals, their luminousness may be "a substitute for the light of the sun," and may be the means of enabling them to discover one another, as well as their prey. He remarks, "It seems to be particularly brilliant in those inferior animals which, from their astonishing powers of reproduction, and from a state of feeling apparently little superior to that of vegetables, appear to have been in a great measure created for the supply and food of the more perfect kinds."

LYMPHATIC AND LACTEAL SYSTEM is well described by Mr. Lane. We are induced to quote a passage embodying the anatomical views of this gentleman.

"It has appeared to me in the first place, that anatomists who have especially devoted their time to this interesting subject of late years, have not yet fairly freed themselves from the influence of the Hunterian views with respect to the part performed by the lymphatic vessels, as well as by the arterial capillaries, in effecting the growth and habitual nutrition of the structures. To support the Hunterian theory the lymphatic was required to be present with every molecule of the organization, there with open mouth (for imbibition in the living body was not admitted as possible) to remove the old material in order to make room for the new, which was supposed to be deposited by the open mouths of capillary arteries. Now, although physiologists no longer admit that the arteries any where terminate by open mouths, but consider all nutrition to take place by the transudation of the liquor sanguinis through the delicate tunics of the capillary blood-vessels, and although venous absorption, as well as lymphatic, is acknowledged to take place, consequently that the ubiquity of the lymphatic ceases to be a matter of necessity, still it appears to me that physiologists have not yet shaken off the old impression, that every particle of the organization must have its lymphatic vessel, and I cannot help thinking that the continuance of this impression is misleading us in our notions of the arrangement of the system.

There are also some additional anatomical considerations which have had their weight in leading me to the opinion that the lymphatic system is less extensive than is generally supposed. It is not, I believe, known to anatomists that the lymphatic vessels admit readily of dissection in their uninjected state; these vessels do not easily give way under traction, and by using the forceps to hold them, and a blunt but pointed instrument to detach them from the surrounding cellular membrane, to which they are but loosely attached, they may be dissected with equal facility as the cutaneous nerves, for which they are not unfrequently mistaken by the young dissector. I have in this way several times dissected the lymphatics of the upper extremity, from the glands in the axilla to the fingers, and in the lower, from the inguinal glands to the toes. In proceeding thus to trace these vessels, scarcely a single lateral branch can be detected in the leg and thigh, by which the supposed universal network of the surface of the skin could have been connected with the rest of the system. When the subcutaneous lymphatic vessels are injected with quicksilver, every anatomist must have remarked the absence of lateral branches; this has always been accounted for by supposing a valve at the termination of each lateral branch into the larger longitudinal vessels; but in dissecting these vessels in their uninjected state, the lateral branches if present ought

to be met with, which is not the case. I am fully aware that Haase, and other investigators, have succeeded in getting the injection to pass in a retrograde direction from the subcutaneous lymphatics of the lower extremity into a net-work of vessels of small extent situated close to the surface of the skin: this has occurred to myself on two occasions, in the skin over the tibia, and in the inguinal region, but in both these instances it was in a portion of skin presenting a cicatrix; the net-work was circumscribed, and left the impression on my mind of an abnormal rather than of a normal condition of these vessels. The entire profession have adopted the notion that the process of ulceration is effected by the lymphatic vessels, consequently that, as every structure may ulcerate, so it must have its lymphatic vessel. But I may be permitted to ask pathologists to consider, whether they are not still influenced by the Hunterian theory, viz. that the countless open mouths of the lymphatics (which modern anatomists do not allow them to possess) effect the removal of the textures disappearing by ulceration, rather than by the few facts and observations bearing upon this important question. I would ask whether the occasional instances, of inflamed lymphatics containing pus, being found leading from an ulcerated surface, are sufficient to establish the opinion, that the whole process is effected by this set of vessels: or whether the occurrence is not more satisfactorily accounted for, by the supposition that the ulcerative process has implicated a lymphatic vessel, and that the pus has entered the vessel by an opening thus effected in its paries, or that the pus has been formed in the lymphatic itself, as the result of inflammation affecting its interior: more particularly when it is borne in mind, that the pus globule is much too large to have entered these vessels by imbibition, and that open mouths are denied to them. The parts of the body in which I have seen pus in the lymphatics, have been on the surface of the lung, on the mucous membrane of the intestines, on the penis when ulcers had occurred in these organs, also in the subcutaneous lymphatics after suppuration and sloughing of the cellular tissue,—situations in which every anatomist has seen lymphatics, and where the ulcerative or sloughing processes might readily have effected an opening into them."

We again and for the twentieth time cordially recommend this work to the profession.

COMPARISON OF THE SICKNESS, MORTALITY, AND PREVAILING DISEASES AMONG SEAMEN AND SOLDIERS, AS SHEWN BY NAVAL AND MILITARY STATISTICAL REPORTS. By Major *A. M. Tulloch*, F.S.S. Read before the Statistical Society, 15th Feb. 1841.

THE parallel between the two Services could only be extended over the seven years that preceded 1837. The first table in the paper gives the following result, in respect to troops and seamen in the Mediterranean for 1830 to 1837. The mean strength of the NAVAL force was 55,709—of which 72,671 came under medical treatment, deaths 617—invalided 1433. The annual ratio of mortality was 11 $\frac{1}{2}$ per one thousand men. Let us see the MILITARY results. The mean strength was 62,300—the number treated for sickness being 67,779—and the deaths 1,270—or 20 $\frac{1}{2}$ per thousand men!!

The striking difference in the ratio of mortality in the two services is attempted to be explained, in part, by the talented author—such as sailors being more subject to slight hurts than soldiers, &c. but still, there must be other and more potent causes in operation than those stated by the Major. The following passage is more to the point.

"To these circumstances, tending to lower the mortality on ship-board, may

be added the sanatory influence of the sea-air on those chronic affections of the liver and bowels, from which persons are apt to suffer in warm climates, and which will be adverted to more particularly in the following comparison of the various diseases to which the naval and military forces stationed in this Command have respectively been subject during the period under review."

We may now glance at the comparative prevalence of particular diseases. Thus diseases of the lungs amounted to 13,514 out of 55,709 seamen, of which died 177. The pulmonic diseases in the army amounted to 8,955, in 62,300 men, of whom 405 died—or rather more than double the number in proportion. As a set off, however, we must recollect that there were more lung affections, as compared with the whole force, in the navy than in the army, and the probability is, that they were more alight in their nature, and consequently less fatal in the result.

The statistics of phthisis in the two services are somewhat remarkable. Thus in aggregate naval force of 55,709, there were 285 cases of consumption, of which 105 died. In the army aggregate of 62,300, there were 417 cases of phthisis, of which 272 died—or about two-thirds. In the navy, then, we find that nearly one-half of the cases of consumption recover! A contemplation of this statement plainly tells us that, after all, we must take or make our calculations with considerable caution. Suppose we were to take either the naval or military reports, or both, for our guides in private or in public practice, and were to predict that one-half or one-third of our consumptive patients would recover, what would become of our diagnostic or prognostic reputation at the end of 20 years? It is manifestly evident that the basis of the statistical report was erroneous—and that not one in ten—no, nor one in 30 of the cases were phthisis in reality. If, in this case, then, we detect a most decided error in the basis of the statistical record, are we to fear that similar errors are necessarily incorporated with the other items, and that statistics are not to be depended on? It must be remembered that, in no disease whatever, are there more errors of diagnoses committed, both in public and private—among all classes and ranks of practitioners, than in phthisis. Hence we find quacks and regulars advertise their nostrums, and publish their false doctrines respecting "consumption curable." We must not therefore undervalue statistics, because they tell us, in figures, that the naval doctor cures one-half, and the military one-third of their cases of phthisis. Major T. thinks that the circumstance of invaliding has tended to increase the error.

There seems, however, little doubt that either the sea air or the excitement produced by the voyage, do sometimes operate very materially in alleviating the symptoms of this disease. Many soldiers sent home from Malta, with the apparent symptoms of confirmed phthisis, have arrived in this country in renovated health, and speedily returned to their duty; and so marked has been the improvement in several instances, that within the last year increased facilities have, at the special request of the medical officers, been afforded for sending home invalids of this class. Thus while the faculty in this country are sending their consumptive patients to Malta, the medical officers in that island are sending soldiers labouring under the same disease to England; and as benefit is supposed to be derived from the change in both cases, it seems much more likely to arise from the influence of the voyage than mere change of residence, especially as the proportion of deaths among those labouring under consumption is remarkably low on ship-board."

DISEASES OF THE LIVER.

In the aggregate naval force already mentioned there are 403 attacks of inflammation of the liver, of whom 12 died. In the army (62,300) there were 722

attacks of hepatitis, and 29 deaths. The ratio of mortality, as regards the aggregate strength, was just double in the army, as compared with the navy.

DISEASES OF THE STOMACH AND BOWELS.

The number attacked by inflammation, dysentery, indigestion, diarrhoea, cholera, and other affections of this class, amounted to 8,649, in the naval aggregate of 55,709—and 52 died. In the military force (62,300) there were 11,737, and 157 deaths. Thus the ratio of fatality was, in the army $2\frac{1}{2}$ per thousand men—whereas it did not amount to quite one in the thousand seamen. This is very remarkable.

Cholera occurred in 96 cases out of the aggregate naval force, with 22 deaths. In the army there were 459 cases, and 131 deaths. Here again the ratio of mortality was greater in the army than in the navy.

DISEASES OF THE BRAIN.

This class comprehends a number of genera and species, and shewed, in the navy (55,709) 958 cases, with 52 deaths—in the army (62,300) there were only 656, with 67 deaths. Here the proportion of attacks is greatest in the navy, and the mortality least.

In the whole of the naval force during seven years, there were only two cases of suicide—in the army there were 20, independent of several found drowned.

In dropsy (subcutaneous, abdominal, and thoracic) the mortality was just double in the army, as compared with the navy.

The following table shews that there are five kinds of disease (few of which are fatal) which are much more prevalent in the navy than in the army.

	NAVAL FORCE.		MILITARY FORCE.	
	Out of an Aggregate Strength of 55,709.		Out of an Aggregate Strength of 62,300.	
	Attacked.	Died.	Attacked.	Died.
Rheumatism	3,560	8	2,740	4
Syphilis	2,771	..	1,522	4
Gonorrhoea	1,451	..	2,254	..
Ulcers	3,969	6	3,508	..
Erysipelas	531	15	137	4

Thus rheumatism is much more frequent, in the naval than in the military service, and well it may be, when we consider the exposure of the seaman to night air and wet weather, while keeping watch and watch every night, while the soldier only mounts guard once in three or four nights, and is generally sheltered from the storm. It is not so easy to account for the greater frequency, and also the greater fatality of erysipelas on board ship, as compared with the same disease among soldiers on shore. Probably the frequency of exposure to wet, cold, and night air, when going aloft or keeping watch, together with the paucity of vegetables and fresh meat, may predispose the sailor to erysipelas more than the soldier. We return Major Tulloch our best thanks for this interesting paper.

AN APPEAL TO PARLIAMENT, THE MEDICAL PROFESSION, AND THE PUBLIC, ON THE PRESENT STATE OF DENTAL SURGERY. By *George Waite*, Esq. Surgeon Dentist, M.R.C.S. &c. London: Highley, 1841.

MR. WAITE, who is an accomplished dentist, places the unprotected state of dental surgery, and the impositions on the public that it leads to, in a striking light. The following anecdotes are piquant.

"It will not be inappropriate here to quote a ludicrous scene which occurred a few days since at one of our public offices, shewing the present degraded state of this branch of the medical profession.

Magistrate.—Then after he made three sets of teeth, which were of no use, he persuaded you to go to Mr. —, whose pupil he said he was?

Complainant.—He did.

Mag.—Did you go?

Com.—Yes.

Mag.—What did he say?

Com.—That for a hundred guineas more, he would make me a set of teeth with which I could eat beefsteaks, and which would last me my life. (*Loud laughter.*)

Mag.—Did you pay him the money?

Com.—Yes.

Mag.—Have you a receipt?

Com.—No. I asked for one, but he would not give it me, and I have called on him without being able to see him.'

In another instance I was requested by my friend Dr. Scott, to give advice where an elderly and helpless lady had been defrauded of an enormous sum for two most clumsy-looking bits of gold, which it was pretended were worked up at Paris, by some extraordinary workmen, which were to be found nowhere else in the world.

Not long since, I was informed that a gentleman received an account of £170. for work done for his family, which was not worth £10. and which enormous sum was compromised for £100.

A lady, caught by the advertisement of a man calling himself the first operator of the day, and other high-sounding titles, stating that no one in the world but himself knew anything of the art, was compelled to seek redress in a court of law: the verdict was against her, but in the trial it came out that a model was made of her mouth before the teeth were extracted, therefore, how could the work answer. If any dentist of respectability had been subpoenaed on this trial, the verdict would have been different. We find governesses and servants who have saved money are too often duped by these men, and in many instances they are left wholly destitute.

I refer only to cases which have come within my own knowledge.

The system is not confined to London. Near Oxford, a dentist persuaded a poor groom, who had just received £8. for wages, that unless his teeth were cleaned and some extracted, he would lose his life. He sent him home *minus* the £8. His master is an intimate friend of mine."

Mr. Waite recommends that the legislature demand evidence of qualification, before a licence to practice dental surgery is given. He advises the following system of education.

"But perhaps I might subjoin a view of the system of education which I should recommend a dentist to pursue. Mathematics and mechanical philosophy should form the groundwork of his education. I would urge that it ought to be imperatively demanded by the Medical Reform Bill that he pursue a system of work for three years, at least, to gain a steadiness of hand and thorough knowledge of instruments.

In proof of the necessity for this qualification I may urge a case or two, (one occurred not long since,) where an instrument having slipped, lacerated the soft palate, broke the small bones contiguous to it, and stopped against the base of the skull. This occurred to the daughter of an exalted personage; both however are now no more.

In another instance, a sharp instrument went through the cheek at once, and often instruments have slipped down the side of the lower jaw into the glands under it. Steadiness of hand, which work alone can give, should be an essential consideration. I would have every dentist well versed in chemistry, have attended three courses of lectures on anatomy, physiology, and surgery, and also have pursued hospital practice.

This should qualify him for examination, his licence to practice, or his diploma, should be given to him on his qualifications being proved, and his pupils afterwards always apprenticed to and examined by a board of officers.

There might exist a reserved clause, that all dentists being established at this time, should be examined as to their qualifications, and their age noticed; and wherever gross abuse has existed and can be proved, the licence should be refused."

A FEW HINTS ADDRESSED TO MEDICAL STUDENTS ABOUT TO VISIT THE
PARISIAN HOSPITALS. By *A Physician*. London: John Churchill,
Princes-street, 1841.

THESE hints are mostly worth having. We shall take one or two of them. And first a hint on *lodgings and eating*.

It is a matter of experience known to all the medical men of Paris, that a large proportion of the medical students are attacked with fever within a very short period of commencing their studies. Now, though this may be accounted for in many ways, and may arise from various causes, yet it is generally allowed that the situation selected for their lodgings is of itself sufficient to be an exciting cause of disease. A more unhealthy situation than some of those small and narrow streets and alleys that abound near the Ecole de Médecine cannot be conceived. In these parts the medical students chiefly reside, for the sake of convenience and economy: here they congregate together in the miserable *maisons garnies*, living, as they occasionally do, two or three in one apartment. The cheap restaurants or eating-houses that also here abound, only add to the general wretchedness of the scene, wherein, under the semblance of comfort and economy, the student is offered his *dejeuner à la fourchette* for sixteen sous, and his dinner *de quatre plats* for twenty-two sous. To many this may appear of little importance, and to be little connected with the subject under consideration; but reason and experience will draw a different conclusion. Is it possible that the body accustomed to nutritious and healthy food, to all the comforts of English living, to fresh and wholesome atmosphere, can meet with so sudden and so great a change as this, and not be affected by it? What quarter then of Paris is to be selected by the student? If the faubourg St. Germain side of the Seine must be chosen, from its contiguity to the hospitals, the rue de Seine St. Germain, or the rue de Sts. Pères, affords a far more healthy and open situation than the localities previously mentioned. True it is, that apartments may be somewhat more expensive, yet surely it is far preferable to sacrifice a small sum of money for the sake of health than to run the risk of becoming the victim of low typhoid fever. The Tuileries side of the water is colonized to a great extent by the English, and is certainly preferable to the faubourg St. Germain. Here lodgings are to be had tolerably cheap, but depend much on situation. In the faubourg du Roule, the continuation of the faubourg St. Honoré, lodging may

be procured at a moderate price, and the situation is very healthy, but it is some distance from Hôtel Dieu, La Charité, La Pitié, &c. It is, however, contiguous to the Hôpital Beaujon, to which M. Louis has lately been appointed, during the alterations that are taking place at Hôtel Dieu. Again, with regard to meals: one wholesome dish in a respectable restaurant's is far better than four offered for the same money in many of the cheap eating-houses. For two francs a good dinner may be procured, and a déjeuner or breakfast for thirty sous, in many a clean and wholesome restaurant's. The great difference that exists between French and English living must, more or less, affect every constitution, however strong it may be. It is scarcely possible to conceive of two greater extremes. In Paris there are a set of small hotels, which profess to give English dinners. These are generally as dear as they are bad; but one or two are to be found in the neighbourhood of the Boulevards des Italiens, where, at times, a tolerable English dinner is to be met with: in these, as must of necessity happen in places of like description, the company is not of the most select order; but if this can be dispensed with, it is certainly worth while of those who are suffering from the dyspepsia of Parisian cookery to try for a time the change.

Walking the Hospitals should not be entered upon for the first three weeks after the arrival of the student in Paris. The atmosphere of Paris is very peculiar, and this is exemplified in the numerous patients that enter its hospitals, the victims of its effects on the constitution. It is a question that is asked of every patient, how long he has been in Paris? The first month is the most trying period; before, then, the student commences his labours, he should, to a certain extent, have become habituated to the change of air: his constitution should have time to accustom itself to the peculiarities of difference.

What Hospitals are worth attending?—Of the Parisian hospitals there are none that offer such a concentration of medical skill as La Charité. This is situated in the rue des Sts. Pères, and contains between five and six hundred patients. MM. Andral, Cruveilhier, Velpeau, Rayet, Bouillaud, Fouquier, are all to be found within its wards.

He who would learn accurate diagnosis, who would study the use of the stethoscope in its mean, and not in its extreme; he who would learn pathology, by close attendance to the dead house, should follow the service of M. Andral. There are few so free from that national error, excitement, as this celebrated man.

No hospital is better known to us by name than Hôtel Dieu. It was the largest in Paris, containing at one time 1200 beds, but its size is much diminished owing to the improvements which are being made in its immediate vicinity, which have rendered it necessary to pull down one of its largest wings.

Of the surgeons attached to this hospital are men whose names are familiar to all in the profession, as MM. Roux and Breschet. The former makes his daily visit, at half-past six in the summer, and at seven in the winter months, and this is followed by his clinical lecture in the amphitheatre of the hospital. M. Breschet commences his rounds at nine o'clock.

There are no less than ten physicians attached to this hospital. Amongst the most celebrated are Chomel, Magendie, and Louis. M. Chomel lectures from nine to ten on Mondays, Tuesdays, and Fridays.

Another hospital that is generally visited by foreigners is the Hôpital St. Louis, in which an opportunity is particularly afforded of studying diseases of the skin. It is situated within five minutes' walk of the rue du faubourg St. Martin. One of the streets leading out of this, called the rue des Recollets, will be found the direct way to this hospital, which is situated in the rue de l'Hôpital, directly in front of the canal that is at the end of the rue des Recollets. Here it was that Alibert and Bielt collected their vast mass of information, and were to be found morning after morning, in the midst of their squalid band of

patients. But now no more remains of them than a dirty marble bust of the former,—soiled by the hands of the numerous patients that mount the staircase where it is placed—to mark the haunt of this once celebrated man. Time makes sad changes in our profession as in every other, and to this the Hôpital St. Louis bears ample testimony. MM. Lugol and Emery are the only remains of the former days of St. Louis.

M. Lugol is, in every sense of the term, a great man. He styles himself “*Le grand lustre du monde.*” It is curious to follow him in his scrofulous wards, and there hear him descant on the miraculous powers of iodine.

Near to the Hôpital des Veneriens is the Maison d’Accouchement, or Hospice de la Maternité. There is much difficulty in gaining admission here, as no medical man has a right within its wards, excepting those that are officially attached to it. There are between four and five hundred beds within it.

The Hospice de la Salpêtrière is an establishment on a very large scale. It contains between five and six thousand beds, entirely for women. Of these a certain number are appropriated to old and infirm persons, others are set apart for patients labouring under incurable diseases. Here it was that M. Cruveilhier compiled his admirable work on pathological anatomy, the dead-house affording no small supply of diseases, in their most hideous forms. A certain portion of this establishment is allotted to those who are of unsound mind, their number varying from a thousand to twelve hundred.

The Bicêtre is for men what the Salpêtrière is for women.

Parisian Dissecting Rooms versus the English.—True it is that subjects for dissection are far more numerous than those in England. In this point there is certainly a superiority. When, however, the accommodations that are provided in the Parisian dissecting rooms are taken into consideration, the preference will be given to those of our own country. Let the student who has been accustomed to the dissecting rooms in England enter those in Paris: the stench which first assails his nasal organs is almost insupportable, from the system of smoking which is carried on within them. Again, there is nothing like decency or order kept up; portions of viscera, detached limbs, pieces of dissected muscle, fat, and cellular membrane, are seen to cover the floor. It is necessary to be careful how we tread, lest we should stumble against some limb lying in our way, or slip up, from stepping on some viscid substance that may be strewed upon the ground.

There are two great dissecting schools in Paris. One is close to the Ecole de Médecine, and adjoins Dupuytren’s museum of morbid anatomy; the other is situated near the hospital of La Pitié, and is called Clamart. This is one of a more modern date than the former, to which it is thought preferable. It is certainly situated in a more airy neighbourhood, and its accommodations are somewhat of a better order. It is necessary for all those who intend to dissect, to become pupils of the Internes, who have the choice of all subjects brought for dissection. Each interne has four pupils, who are attached to one subject, that is usually changed every ten days or a fortnight. The sum for the season, which lasts about five months, is about 150 francs, or six pounds. To those who would be free from the inconveniences of the common dissecting rooms, a means is offered of dissecting in private, by becoming the pupils of the overseer of the school, who has private rooms set apart for this purpose. He of course demands a sum of money in proportion to the convenience offered, and this more especially of the English, who are always supposed to have a superabundance of money, wherewith they can afford to pay handsomely.

Spirit of the Foreign Periodicals, &c.**M. ANDRAL ON THE MODERN DOCTRINE OF HUMORAL PATHOLOGY.**

THE following extracts, from one of the Lectures on General Pathology and Therapeutics recently delivered by this illustrious physician at the Faculty of Medicine at Paris, will be read with interest at the present moment by all who take an interest in the progressive changes of their professional literature.

"The history of those humoral alterations, which is to occupy our attention during the present session, comprehends three distinct parts—the study of the opinions and of the facts which belong to former times; the study of our existing actual knowledge and information which has been derived from the researches of modern chemistry; and, lastly, the pointing out of the gaps which still remain to be filled up, and for doing which we require much fresh and extended examination. If we have followed the progress of medicine in past times, we cannot fail to be struck with the very great difference between ancient and modern *humorism*.

From the time of the Greek philosophers down to the tenth century—a period which constitutes the *first epoch* of humorism—the various doctrines that were successively in vogue were the offspring of mere conjecture. The four humours of the body, the four constitutions or temperaments, the four elements of nature, &c. about which so much has been written, were purely hypothetical creations, devised for the purpose of explaining the cause of diseases, as well as the mode of their progress and termination. The reasoning, which led to the admission of these humoral changes, was not exact, and was suggested merely by the necessity of discovering some mode of accounting for the development of certain maladies, which have evidently their origin in a lesion of the principal fluids of the system. The ancient humorists committed the serious error of proceeding by mere reasoning and conjecture in their examination of these changes, and of losing sight almost entirely of experimental research.

In the *second epoch* of humorism, comprising the period from the sixteenth century to recent times, the chemists, by substituting for the notions of their predecessors certain ideas derived from experiments performed in the laboratory, made certainly some progress in science; but their theories, although more exact than those which preceded them, were always imperfect and often quite erroneous, in consequence of their authors mistaking the animal economy for a mere laboratory, and of their neglecting to examine experimentally the fluids of the body.

Modern humorism has sprung up from the observation of facts in the very face of a solidism, which, being unable to render an explanation of all the phenomena of disease by the changes in the solids of the body, has been obliged to seek for it in the changes of the fluids. When we attentively study the different phases, through which pathological anatomy has passed during the last 40 years, we are convinced that one of its most immediate consequences is this very study of the various changes that are apt to occur in the different fluids of the body. And is it not natural that, after having examined by all known means of investigation the physical modifications which organs experience in the course of disease, and finding that those means fail to render an explanation of the morbid phenomena, we should interrogate the condition of the fluids by means of processes which chemistry alone suggests? The microscope, also, is an instrument which assists us in penetrating the intimate structure of the humours, and the nature of their alterations."

..... "It must be admitted that modern humorism has hitherto made but little real progress. In respect to the alterations of the fluids we are very nearly about the same point as the Greek physicians were in the days of Hippocrates in

reference to the alterations of the solids. The old Coan, in one of his writings, tells us that we must not neglect these alterations, just in the same manner as the solidist physicians have in recent times told us that we should take account of the changes which may occur in the fluids; but little more was done in either epoch of our science than the occasional announcement of such vague advice.

To impart a more vigorous impulse to this department of medical enquiry, we must commence and prosecute a series of researches similar to what have been done for the solids during the last 40 years. Pathological anatomy reveals to us the lesions which occur in the constitution of the organs of the body, and chemical analysis will do nearly the same for the fluids: it is in truth a sort of pathological anatomy.

By separating the different elements which compose them, and by ascertaining if, and to what extent, these elements are altered in quality and quantity, chemical analysis may do much to assist us in the investigation of many diseases. It is in this manner that we must proceed to detect the lesions which affect not only the complex tissues which form the different organs of the body, but also the elementary tissues and the ultimate living molecules which concur in the structure of the solids.

To establish this molecular pathological anatomy, so to speak, we must avail ourselves of the aid of the microscope, and of all the various means of analysis which physical and chemical science furnish us with.

In short, modern humorism is an offspring of modern pathological anatomy; for is it not apparent that, if we prosecute our researches into the composition of morbid structures more and more profoundly, we are necessarily led to appreciate those minute changes in the condition of the fluids as well as of the solids of the body—the examination of which is the very basis on which the new humoral doctrine is founded."

M. *Andral* closes his observations with these valuable remarks:—

"To derive any important benefits from the study of the new doctrine, to which we have alluded, it is absolutely necessary that it be cultivated by men who do not profess to be exclusive advocates either of humorism or of solidism, and who are satisfied to advance with slow but sure steps in the path of experimental enquiry. It belongs to the professor of general pathology to enter upon and follow out this difficult career. In truth, general pathology is the true arena, where the great questions respecting all morbid changes in the system should be brought forward and canvassed. It is to it that we must look for the filling up of the gaps in science, by summoning to its aid every new means of research, and by pointing out the proper direction in which these should be employed. In general pathology we expect to find at once the inventory of the actual state of science, the evocation of its past career, and the preparation for its future condition: such is the task of the professor who understands the duty required of him. It does not consist, as has been too long imagined, in the mere study of the symptoms, the signs, and the causes of diseases, &c. those generalities which have not even the advantage of embracing all the curious facts of which internal pathology is composed."—*Gazette Medicale*.

DR. MANDL ON THE CHEMICAL ANALYSIS OF THE BLOOD IN A PATHOLOGICAL STATE.

Dr. *Mandl* has contributed three very elaborate papers to the Archives de Médecine, for the latter months of last year, on this very difficult but very important and interesting subject.

The *first* is occupied with a review of the numerous, and from their discordance often bewildering, statements of different chemists and physiologists as to the

composition and the relative qualities of the most obvious constituents of the blood—the fibrine, the globules and the serum. There is still much contrariety of opinion on this subject, and we are far from having arrived at any recognised exactitude of knowledge. Perhaps the very attempts, which have been made of late years since chemistry has made so much progress, to obtain too minute analyses of the animal fluids, has retarded and impeded our progress in our physiological acquaintance with them, alike in a healthy and in a morbid condition. To be a useful animal chemist, the experimenter must be a practical physician at the same time; and we cannot expect to obtain any important results, unless the various changes, which are induced on the fluids by disease, are attentively examined and duly appreciated at the bed side of the patient, as well as afterwards in the laboratory. To select one out of many proofs that *were* chemistry can do but little for humoral pathology, we may allude to the circumstance of the two principles, albumen and fibrine, being recognised to consist of the same chemical elements in nearly the same proportions, while at the same time every one knows how different are the phenomena which they exhibit in the chemistry of the living body. And if we wished to shew the discrepancy of authors on the relative proportions of the different elements of the blood during health, we have only to mention that, according to *Lecanu*, there are about three parts of fibrine in 1000 parts, whereas *Berzelius* estimates the proportion at less than one part, *Fourcroy* as varying from 1 to 4, *Davy* as 1½, *Nasse* as 2½, *Müller* at nearly 5 (in the blood of the ox), and *MM. Andral* and *Gavarret* at 3. Well therefore may Professor *Giaccini* assert in a recent paper (v. *Gazette des Hôpitaux*, No. 20, 1840) that “if we compare the numerous tables on the composition of the blood published in works on chemistry, we do not find two that are not at variance.”

If from the chemical analysis we proceed to the physiological interpretation of that most common phenomenon, the coagulation of the blood, we find as much discordancy of opinion as on the relative proportion of the fibrine. Some have attributed it altogether to the blood being at rest, and have therefore ascribed its fluidity to the circumstance of it being constantly in motion during life. But how then shall we explain the fact of the entire mass remaining perfectly fluid within the vessels in some cases of sudden death, and of the contents of a vein or artery in any intermediate portion of the tube between two ligatures, and thus kept in a state of complete repose, not becoming coagulated?

Others have sought for a reason of the phenomenon in the refrigeration of the blood when it is drawn from the body. But numerous experiments have shewn that this idea is quite untenable; seeing that the process actually goes on more quickly if the temperature of the blood is kept to the heat of the living body, and that, on the other hand, it is considerably retarded if the temperature is much reduced. *Hewson* has even proved that the blood after being frozen and again thawed will coagulate, as usual, into a solid and a fluid portion.

Then as to the influence of the atmosphere on the process of coagulation, various experiments have been at different times made to ascertain the effects of withdrawing its pressure, by introducing a vessel full of fresh-drawn blood under the bell of an air-pump; but hitherto no satisfactory conclusions have been drawn from these experiments; different results having been obtained by different men.

Then again, it has been supposed by some that the coagulation of the blood out of the body is somehow connected with, if not dependent upon, the disengagement of gaseous elements from its mass. *Home* and *Scudamore* have, for example, attached much importance to the escape of carbonic acid; but *Dr. Davy* has subsequently denied its influence altogether; and indeed might we not well ask, how does the blood not every moment coagulate in the lungs, seeing that there is a constant evolution of this very gas during respiration?

Dr. Mendl sums up his observations on this subject in these words: “What then up to the present moment is the result of all the chemical experiments which have been made to explain the coagulation of the blood? None, absolutely none.

How are we to account for the blood, contained in the jugular vein of a dog, rabbit, remaining liquid for some hours in a portion of the vessel which has been separated from the rest by means of two ligatures, and subsequently removed from the body of the animal? The coagulation is retarded under such circumstances by cold. But, when the vein is opened, the blood coagulates in the course of two or three minutes. Now how are we to explain these phenomena? We must confess that we are utterly unable to do so. This experiment is quite conclusive against the idea that coagulation is owing to the blood being at rest, as well as against that which attributes it to the influence of refrigeration."

Dr. *Mandl* subsequently alludes to the influence of certain chemical substances, when mixed with fresh-drawn blood, in retarding the process of coagulation. These substances either precipitate the albumen and fibrine in the form of molecules which do not afterwards coalesce, or they hold these elements in chemical solution. For example, by means of sulphuric acid we may obtain a solution of blood; but we have no right to say that under such circumstances we have prevented the coagulation of the fibrine.

With one short extract, which seems to us to suggest a useful distinction, we shall close our remarks on this subject. "In studying the phenomena of the coagulation of the blood," says Dr. *Mandl*, "we ought to distinguish two moments or circumstances which are very different from each other:—the first is the solidification, or precipitation of the dissolved fibrine; and the second is the contraction of this fibrine newly solidified. This contraction of the fibrine may take place in three or four minutes, or it may require several hours, according to the refrigeration, the evaporation, the force of the jet, the greater or less quantity of the blood drawn, the external temperature, the humidity of the air, &c. &c. Now, authors have always confounded this second moment, the contraction, with the first moment, the precipitation; and yet these two phenomena are as distinct from each other, as the precipitation of a salt and its crystallisation. When *Hunter* wished to explain the process of coagulation by attributing it to the contraction which is observed to take place in the fibrine as in muscular tissue, he used to say—this *must* contract, because it *does* contract; he thought only of the second act or moment of the process." We proceed now to offer some remarks

On the Formation of the Buffy Coat.

Without entering at all upon the disputes of different chemists as to the nature of the buffy coat, we may merely state that, for all practical purposes, it may be admitted that it is part of the fibrine, held in solution in the blood, and deposited free from any admixture of red globules. The simple and beautiful experiment of *Hewson* proves this very distinctly: by removing with a spoon the upper colourless layer of the blood, he observed that the buffy coat is quickly formed in this decanted serum.

If we now enquire, what is the cause of this deposition of part of the pure fibrine of the blood on the surface of the clot, in certain forms of disease, a great number of most estimable authors will at once answer, "a greater than usually slowness in the act of coagulation." But another set of authors, whose names are entitled to as much credit, assert the very contrary, and distinctly maintain that this process actually goes on more quickly than usual, when the buffy coat is formed. For example, *Andral* and *Forget*, in their recent memoirs, state; "the separation of the blood into its solid and fluid portions takes place rapidly in plethora and in inflammatory diseases, as daily observation testifies."

We cannot, therefore, assent to the opinion that the formation of the buffy coat is owing to a retardation in the process of coagulation. Neither can we ascribe it, as some have done, to a mere excess in the quantity of the fibrine existent in the blood; for it has been amply shewn by several writers that not unfrequently the blood contains an unusual quantity of this constituent, and yet no buffy coat is formed on its surface.

M. *Magendie*, in his recent work on the physical phenomena of life, endeavours to explain the difficulty by ascribing the buffy coat to "one of the most simple and best understood physical phenomena, the relative gravity of the globules and of the fibrine; the former having a greater specific gravity than the latter tend to fall to the bottom of the mass, and thus the fibrine collects, more or less exempt from them, at the surface."

This explanation may be correct; but certainly the premises on which it is founded have not been proved. We do not for example know for a certainty that there is any alteration in the specific gravities of the fibrine and of the globules; and we should also remember that it is part only of the fibrine that collects at the surface, while another part sinks down, and entangles in its meshes the globules.

M. *Mandl* proceeds to expound his own views on this question. The following extract will enable our readers to understand the scope of his researches.

..... "Every one is agreed in admitting that in the formation of the buffy coat the red globules are precipitated before the fibrine is coagulated. Now on what does the formation of this buffy coat depend? we answer on all those circumstances which tend to favour this precipitation of the globules before the coagulation of the fibrine. Among these circumstances we may first mention the specific gravity of the serum. Whatever renders the serum lighter than usual, may give rise to the formation of the buffy coat, since the globules are then precipitated more quickly than usual. Again the blood and the serum, when cooled, are more dense and heavy than when they are warmed; and, therefore, whatever tends to keep the blood either warm or to cause it to cool will have the effect of on the one hand favouring, and on the other hand of retarding, the formation of the buffy coat. By attending to these circumstances we can explain the results of numerous experiments which we find recorded in the writings of various authors, but which are otherwise not easily intelligible. The small interrupted stream from a small opening in a vein, the vessel into which the blood is received being shallow, cool, and held at a distance from the arm, a cool state of the atmosphere, &c. &c., are so many circumstances which are unfavourable to the *franche* formation of the buffy coat."

In illustration of his views Dr. *Mandl* states, that from various experiments we have reason to believe that the specific gravity of the blood in inflammatory diseases is, in spite of a greater quantity of fibrine contained in it than usual, somewhat lower than in health. He appeals to the writings of *Thackrah*, *Scudamore*, *Babington*, and *Davy*, in proof of this assertion. *Nasse* also, of *Bonn*, in his recent work—*Ueber das Blut*, 1836—distinctly states that the buffy coat is stronger in proportion as the specific gravity of the blood is less, and that it forms with much greater difficulty on blood that is very dense.

If it be now asked, to what is this diminution of the gravity of the blood in inflammatory diseases owing, M. *Denis* (*Etudes Chimiques sur le Sang*) tells us that there is, under such circumstances, a deficiency of the usual quantity of the albumen and of the saline matters dissolved in the serum. This statement has not, however, been confirmed by the subsequent researches of MM. *Andral* and *Gavarret*, nor by those of M. *Lecanu*.

It is not improbable that the specific gravity of the globules themselves may vary a good deal under different circumstances; but as yet we have no satisfactory data on this subject.

Of Blood deficient in Fibrine.

In not a few diseases is the blood found in what has been called a dissolved state, more than usually liquid, its coagulum being soft and imperfectly formed, and its watery portion more than usually abundant. Such is the case in almost all malignant fevers, in scurvy, in purpura, &c. &c.

Let us consider the state of the blood in scurvy for a few minutes. It is ad-

mitted by all authors who have seen much of this disease, that there is not only a marked deficiency of its fibrine, but also a very considerable increase of the alkaline salts of the blood. Now what is the effect of these salts on the coagulation of healthy blood?—to retard, or even to prevent the process altogether. Dr. *Mandl* seems to think that we are not to infer, from this condition of the blood, that there is necessarily any considerable diminution in its normal proportion of fibrine, but only that this element is held in solution in such a manner that it is not easily precipitated from the other elements of the mass.

Our information is as yet very defective as to the existing proportions of the saline matters of the blood in those other diseases where the blood is known to be more than usually thin and diffuent. It is worthy of notice that the commixture of putrid animal matters with healthy blood has nearly the same effect upon it as the addition of a quantity of an alkaline salt—viz. to impede the coagulation and to cause the mass to remain more fluid and dissolved. Whether the blood becomes actually impregnated with any miasmatic particles in typhus and other malignant fevers is not easily determined; but certainly there is nothing improbable in the supposition.

"We regret," says Dr. *Mandl*, "that we do not possess more complete analyses of the blood in typhoid fever. Is the fibrine actually diminished in quantity? and is the proportion of the saline ingredients, or of the albumen, which in our opinion produces analogous effects, at all increased? As yet we do not accurately know; but it may be readily understood, from what we have previously stated, that we must be on our guard in at once concluding that there must necessarily be a diminution of the actual quantity of the fibrine merely from the amount of it obtainable from the coagulum. M. *Denis* positively attributes the defect of coagulability and the other differences of the blood in typhoid fever to an augmentation of its saline ingredients."

Dr. *Mandl* next alludes to the alleged changes of the globules of the blood in disease.

"We shall now," says he, "enquire how far circumstances may influence the proportion or relative quantity of the globules in our examinations of the blood, and shall allude more particularly to that condition of the blood, where the coagulum is found to be more than usually soft and unadherent, because it is precisely in such a case that experimenters have discovered an abnormal proportion of the globules.

To determine the proportion of the globules in any quantity of blood, we divide it into two parts; in one of which we ascertain the quantity of the fibrine by stirring it briskly with a bunch of rods, and then deduct the weight of the fibrine so obtained from the weight of the coagulum, in the other portion of blood previously dried. Now, the fibrine being often unusually soft, it will be found to be very difficult to separate it completely; and hence the proportion of the globules will often be estimated as considerably higher than is normal, in consequence of a portion of the fibrine remaining in union with them.

Again, we have previously seen that a firm and well-contracted coagulum contains a large proportion of globules, and that, as a certain quantity of them escape our analysis, the exact amount of this proportion is apt to be underated. On the contrary, in a coagulum which is soft and does not retain its globules so firmly, the proportion of these globules is apt to be estimated too highly. It results from our observations that the more quickly that the fibrine coagulates, the less will be the quantity of it (the fibrine) that is found united or associated with the globules; and, on the contrary, the more slowly that the fibrine coagulates, the larger will be the quantity of it that is found with the globules: in other words, the relative proportion of the globules will be diminished in the first instance, and increased in the second. Now the presence of saline matters, which retard the coagulation of the blood, must produce on the one hand a soft coagulum, and on the other hand, an apparent increase in the proportion of the globules."

MM. *Andral* and *Gavarret* have, in their recent memoirs on the changes of the blood in various diseases, characterised the second class in their humoral nosology, as that in which the proportion of the fibrine of the blood is often diminished while that of the globules is often increased. In this class they have arranged all the tribe of continued fevers upon what we consider to be very insufficient information. For other observers, as Dr. *Reid Clanny* and Dr. *Jennings*, have expressly stated that, according to their researches, there is a notable diminution in the proportion of the globules of the blood in these very diseases. The question therefore still remains undecided. Indeed much, very much, requires to be done before we can assure ourselves of having arrived at any exact conclusions on many of the apparently most simple questions connected with the physiological and pathological conditions of the blood."—*Archives Generales de Medicine*.

INFLUENCE OF THE SPECIFIC DENSITY OF THE BLOOD ON THE FORMATION OF THE BUFFY COAT.

During the last and the present year, much attention has been paid by several French physiologists to the various circumstances which influence the formation of the buffy coat on the blood; and as a new humoral pathology, so to speak, is gradually establishing itself in medical literature, it is necessary to be aware of the various discoveries, real or imaginary, of those who engage in the analysis of the animal fluids. The name of M. *Donné* is well known to all who take an interest in such pursuits. He has already done much in the field of microscopic enquiry applied to the investigation of the texture and composition of many parts of the body, both in disease and in health, and he still pursues his researches with all the ardour of a genuine lover of science. At the beginning of the present year he read a paper before the Academy of Sciences on the coagulation of the blood. His main object was to point out the conditions of this fluid, which favor the formation of what is called the buffy coat on its surface. Whenever the red globules are deposited more quickly than the fibrine, this phenomenon is induced. Now this may arise from two causes—either a more than usually slow coagulation of the blood, or a state of inferior specific gravity of this fluid. The former of these states has been long known and attended to; whereas the influence of the latter has hitherto been scarcely ever noticed. Now the latter condition—that of diminished specific gravity—is generally produced by previous loss of blood; and hence it is usually observed after venesections have been practised to any considerable amount. The mass of the blood having become less tenacious and viscid, its red globules precipitate themselves with greater rapidity than usual; and thus there is a tendency to the formation of a superposed stratum of fibrine on the surface. It is from having omitted to take these circumstances into account, that hitherto medical men have been puzzled to explain the formation of the buffy coat in certain cases, more especially in acute rheumatism, at the second or third bleedings, when the blood drawn at first had not exhibited any appearance of it. The cause of this is, that the blood had been at first too dense and tenacious to allow the easy deposition of the red globules; but no sooner was it rendered somewhat thinner by venesection and the use of other antiphlogistic remedies, than the globules subsided more quickly and the fibrine was thereby permitted to collect on the surface of the coagulum.

M. RACIBORSKI'S CRITICAL REMARKS ON AUSCULTATION.

M. *Raciborski*, a most intelligent physician resident, we believe, in Paris, seems

to have discovered (!) that, in spite of the many works published on this subject, and all the confident assurances of professed stethoscopists as to the almost infallible accuracy of auscultatory diagnosis, a vast deal of error and of uncertainty still prevail. Much of this error and uncertainty he attributes to the attempts made by so many writers to reduce the phenomena of auscultation to the unvarying accuracy of an exact science, by boldly announcing that the existence of certain of these phenomena most indubitably demonstrates the existence of certain morbid states.

"Scarcely," says he, "had *Laennec* taught us to distinguish some *rales* in the pathological states of the respiratory organs, and scarcely had we begun to make ourselves acquainted with the relations of some of these *rales* with the diseases in question, than every new sound was regarded as a pathognomonic sign of a disease, and we were told that every affection of the lungs must have its particular sound, the existence of which alone, and by itself, was sufficient to indicate the presence of the particular morbid state. Hence has arisen the tendency to a continual augmentation of the auscultatory *bruits*. In the impossibility to increase the catalogue of the diseases of the lungs, each of which had received from *Laennec* a particular sound, it has been the custom of late years to divide each disease into several stages, awarding to each of these stages its (alleged) characteristic *rale*.

Thus we hear not only of *cavernous* but also of *cavernulous*, and not only of *crepitant* but also of *sub-crepitant rales*."

There is much truth in the following remarks on the *ultra-ism* of many professed stethoscopists.

"The great error which has been too often committed has arisen from the attempt to attach a too exclusive importance to the phenomena of auscultation, and from regarding it as a science of sounds, each of which is presumed to indicate a particular morbid state. Now we have no hesitation in boldly affirming that there is scarcely a single *rale* which has a determined and invariable value, and that it is almost impossible to predict from the mere existence of any one *rale* the name of the disease to which it corresponds. For example, I defy the most experienced auscultator to distinguish, with his eyes closed, and without putting any questions to the patient or his friends, the greater number of cases of incipient tubercles from pneumonia in the first degree, or from oedema of the lungs, from hæmoptysis, or even from pulmonary emphysema (!) Again the sibilant *rale*, or the bass-string *rale* does not indicate the existence of pulmonary hepatisation more than it does that of pleuritic effusion; and even the gurgling *rale*, which is usually regarded as a pathognomonic sign of tuberculous evacuations, may be heard where there is no other morbid change but a mere dilatation of the bronchi; and lastly, the metallic tinkling is known to be present in cases of effusion into the pleura, as well as in those of pulmonary excavations."

M. *Raciborski* examines the separate *rales*, described by *Laennec* and others, commenting on their value as he goes along.

As to the *crepitant rales*, which is so generally admitted as characteristic of the first stage of pneumonia, he says that not only is this sound heard in other diseases, as in bronchitis and tubercles, as well as in inflammation of the lungs, but also that in the commencement of this very disease we not unfrequently discover a *sub-crepitant rale*—alleged to appertain almost exclusively to bronchitis or to pulmonary oedema—or even a *mucous* one.

He does not wish, he says, to undervalue the importance of auscultation, but only to caution his readers against the exaggerated statements of its value by its over-enthusiastic disciples, and to impress upon them the necessity of, in all cases, associating its results with those derived from other means of diagnosis. One, certainly, of the most valuable of these means is percussion—which, when skillfully performed, will often tend to correct certain mistakes that are apt to be made if we trust too much to mere auscultatory phenomena, and on the other hand, will

greatly confirm the value, when their results happen to coincide, that we are to attach to these phenomena.

We cannot, as a matter of course, follow M. *Raciborski* in his very judicious examination of the signs furnished by percussion for the diagnosis of chest complaints, and must limit ourselves to the selection of a few extracts.

How to distinguish pulmonary hepatisation from effusion into the pleura.

"When the dullness of sound occupies the lower part of the chest, it is more difficult to determine at first, if this be owing to compression of the lung from effusion, or to an induration of the pulmonary tissue. In the majority of cases, however, we have only to attend to the *expression of the disease*, to be able to discriminate these two morbid states. The absence of expectoration in the former case will very often suffice to determine this point; and, if this will not do, there are other circumstances which will much assist our diagnosis. Thus in pleurisy the degree of dyspnoea is rarely in proportion to the extent over which the dullness on percussion is perceived: we often meet with cases where there is very considerable pleuritic effusion, although the respiration is by no means much distressed; whereas, in pneumonia, the degree of the dyspnoea is usually greater than the extent of the dullness might lead us to anticipate. Again, when the pleuritic effusion is considerable, there is usually a perceptible enlargement or expansion of the affected side; and if the hand be applied to the side while the patient speaks, the vibrations of the voice are scarcely, or not at all, perceptible."

M. *Raciborski* dwells with much emphasis on the value of the dullness on percussion over the upper part of the chest, in a patient who has had a cough for some time, as a symptom of tubercular induration.

..... "As this dullness does not depend so much on the presence of the tubercles themselves, as on the secondary alterations of the pulmonic tissue occasioned by them, we cannot be surprised that we meet with the symptom occasionally at the very commencement of the tuberculous deposit, when neither the presumed number nor the volume of the tubercles might lead us to expect it. Thus the dull sound perceived over the apex of the lungs may indicate the presence of tubercles in a person who has had a cough only for a week or two—provided there be no reason to suspect at the time a pneumonia. On more than one occasion we have been able to detect the existence of a tuberculous affection in the course of measles, although the patients had had no cough before the invasion of the exanthem."

M. *Raciborski* very strongly recommends that in all suspected cases we should employ percussion, not only of the subclavicular regions but of the clavicles themselves. It is the very apex of the lungs that is usually the early seat of tubercles; and hence it is important to examine the chest as high up as possible.

He closes his remarks on percussion in the following words:—

"The study of percussion being incomparably more easy than that of auscultation, our readers will readily understand our motives in first alluding to it. As it is often quite sufficient by itself for the diagnosis of many thoracic diseases, we should always commence the examination of our patients with ascertaining the results afforded by it, before proceeding to the auscultation of the chest."

We proceed now to notice some auscultatory phenomena.

The Expiratory Bruit or Murmur.

"The *bruit* of inspiration is in health always longer and stronger and therefore more audible than the *bruit* of expiration—this latter being occasionally not all recognisable.

Whenever the pulmonary parenchyma becomes more or less impermeable to the air, the expiratory *bruit* becomes more lengthened and acquires more of the character of the inspiratory one: sometimes indeed it exceeds the latter both in strength and in duration, when the pathological condition of the lungs is very extensive or considerable.

Now whether this impermeability be occasioned by induration of the pulmonary tissue, or by compression of it from fluid effused into the pleura, the expiratory murmur is found to be prolonged, so as either to equal or even to exceed the duration of the inspiratory murmur.

..... It follows from our researches, that the prolongation of the expiratory murmur is one of the most constant characters of a tuberculous affection of the lungs—at least when the morbid deposit has already excited those consecutive alterations of the pulmonic tissue, which tend to render it more or less impermeable to the air. Whatever tends to indurate and solidify this tissue, will be found to cause the expiratory murmur to be more *prononcée*. Hence this auscultatory phenomenon is always associated with a dullness on percussion over the affected part of the lungs.

The expiratory sound is usually very much prolonged when the bronchial *souffle*, or blowing sound, is heard."

M. *Raciborski* proceeds to comment on the different abnormal respiratory sounds, or *rales* as they have been called, which have been described by authors. He condemns the fashion of subdividing and multiplying these, which has been so zealously pursued by some.

For instance, M. *Fournet*, in his recent work, has described no fewer than *five* different varieties of the vesicular *rale*, according as it is modified in active congestion of the lungs, in pulmonary oedema, in acute capillary bronchitis, in pneumonia, and, lastly, in relapse of pneumonia. Now what good can such perplexing minuteness do, either to diagnosis or to treatment? Assuredly none. All *rales* may be conveniently arranged into two heads, according as they are produced by the formation of *bullæ* in the bronchi or pulmonary vesicles, or by the vibration of these structures, in consequence of a contraction of their usual dimensions. Hence there are two leading kinds of *rales*—the bullar and the vibratory.* Perhaps we should add to these, the *metallic tinkling sound*, in consequence of the characters which are peculiar to it alone. These three kinds of sound are all that need be attended to in the diagnosis of the diseases of the respiratory organs.

The Bullar Rale.

The varieties of this sound are very numerous, according to the size of the bronchi chiefly affected, the viscosity of the fluid secreted, the force of the inspired air, &c. Some varieties are much more dry and crackling than others; but all arise from the formation of bubbles caused by the displacement of a liquid.

..... "The dry or moist tone, which often distinguishes the varieties of the bullar rale, is only a secondary character, and is dependent on the degree of viscosity of the bronchial secretion. The more viscid that the secretion is, the drier is the sound produced, so that the large gurgling bubbles may give rise to a sound that is quite like the crackling of a piece of folded parchment. But however dry the sound may be, provided it has not a vibrating character, we may be assured that it arises from the formation of bullæ in the air passages."

The diagnosis of the various diseases, in which the different kinds of bullar rale are perceptible, is to be determined by the presence or absence of various collateral symptoms and conditions—such as the duration of the disease, the existence or not of pain in any part, the dullness or not on percussion over the part where the bullar rale is heard, the character of the sputa, &c.

M. *Raciborski* confesses that it is sometimes extremely difficult, if not impossible, to discriminate, by any auscultatory symptoms, pneumonia from capillary bronchitis. Perhaps the best way is to ascertain the extent over which the bullar rale is heard: where this is limited the disease is most probably pneumonia; and

* The division of the *rales*, described by M. *Beau* in his late ingenious papers, is exactly the same—vide the last No. of the *Medico-Chirurgical Review*, p. 490.

on the contrary, where it is heard over a considerable extent, and still more if it be heard on both sides of the chest, we may pronounce the case to be one of bronchitis. Percussion, it must be confessed, will not much assist our diagnosis under such circumstances.

It is, however, in *chronic*, rather than in *acute*, diseases of the chest, that the existence of the *bullar rale* is valuable as a diagnostic symptom; and just because the *rational* symptoms of the existing disease are apt to be obscurely marked.

The chief chronic affections of the lungs, in which this *rale* is usually present, are tubercles, chronic bronchitis, emphysema, and oedema of the pulmonary tissue.

We have already, when alluding to percussion, pointed out the importance of attending to the part of the lungs where an abnormal sound is detected. This remark is equally applicable to the study of auscultation. If the *bullar rale* is heard over the upper part of one or both lungs, in a person who has had a cough for a considerable time, we have great reason to suspect the existence of tubercles*; and if to this symptom be added dullness on percussion of the clavicular region, the suspicion amounts almost to assurance.

In chronic bronchitis, on the other hand, the seat of the *rale* is usually towards the base of one or more frequently of both lungs, and moreover the resonance of the chest on percussion is, in this disease, little, if at all, impaired.

In emphysema of the lungs, also, the *bullar rale* is usually heard towards their bases; and the resonance of the chest on percussion is greater than in health.

In oedema of the lungs, on the other hand, the sound on percussion is generally more or less dull over a considerable extent; but the auscultatory symptoms are nearly the same as those heard in chronic bronchitis, and we are led to suspect the oedematous state of the respiratory organs chiefly from the co-existence of watery effusion in other parts, as in the limbs, abdomen, &c.

The Vibratory Rale.

Under this general term, M. Raciborski comprehends the *sonorous*, the *sibilant*, the *snoring*, the *booming*, the *cooing*, the *chirping*, and the *rubbing rales* of Laennec and other authors. They have all the common character of communicating a vibratory or tremulous sensation to the hand applied to the parietes of that part of the chest where they are heard, and of not conveying the idea of the bursting of bubbles of air in a fluid.

"If," says our author, "it has been easy to prove that the *bullar rale* has but little value as a means of diagnosis, when regarded by itself and apart from other symptoms, it will not be difficult to shew that the *vibratory rale*, viewed in the same manner, is of even less value and less practical importance. As to the cause or *rationale* of this *rale*, if we except one variety—that which depends on the rubbing of false membranes on the surface of the pleura—we may say that all its forms or shades are caused by the vibrations of the air in the trachea or bronchi. In most cases these vibrations are owing to the flapping backwards and forwards

* M. Raciborski very truly remarks: "When the tuberculous affection is incipient, the bubbles of the *bullar rale* are very small, and not readily discovered on a superficial auscultation. We should never fail to make the patient cough occasionally, and attentively examine the upper part of the chest during and after the efforts of coughing. Sometimes it is only after repeated efforts, that we can detect the existence of the *bullar rale*, the sound of which is much like to that caused by pressing the saliva against the teeth, when the lips are closed."

He strongly urges the importance of ausculting the supra-clavicular, as well as the sub-clavicular regions, in all doubtful cases, assuring us that on several occasions he has detected the existence of tubercles by discovering a *bullar rale* in the former, while none was audible in the latter region.

of a small portion of viscid matter attached to some part or parts of the air-tubes. But whether this viscid matter be of the nature of mucus, or pus, or blood, or softened tubercle, we cannot determine from the sound emitted. The *râle* indicates nothing more than the existence of a certain morbid process in the bronchi; it is only by attention to the development and progress of the disease, and by other concomitant symptoms, including those discovered on percussion, as well as by the absence or presence of the *bullar râle*, that we can hope to ascertain its true nature."

The following remarks on the *retrograde resonance* of an abnormal sound along the bronchial tubes will remind our readers of the views of M. Beau on many of the phenomena of auscultation—*vide* the last two numbers of the *Medico-Chirurgical Review*, Foreign Periscope.

"A portion of mucus," he says, "attached to the superior part of one of the principal bronchi, may give rise to vibrations which will be perceived over the entire extent of the chest, below as well as above the seat of attachment. In such a case, not only can we not distinguish the locality of the disease, but we are often puzzled to conjecture its very nature."

The Metallic Tinkling Sound.

"This sound is a variety of the vibratory *râle*, and consists in sonorous vibrations, which resemble the last tones of a bell, or the sound produced by a fly, which, when buzzing to and fro in a porcelain vessel, causes the side of the vessel to vibrate. Similar vibrations may be produced by the inspired air, after having traversed a pulmonary fistula, entering the cavity of the pleura,—which (the cavity) is enlarged by the subsidence or recession of the lung in consequence of the greater or less quantity of fluid which may happen to have become effused.

The greater the force with which the air penetrates into the pleural cavity, the more distinct will be the *metallic tinkling*: hence it is generally stronger during the act of coughing, or when the patient speaks. The distinctness of this sound will be still more increased, if, instead of being caused by the mere admission of the air, it results from the resonance of another auscultatory sound which has a metallic character, and which is induced by the concussion of the molecules of a liquid against each other, as will often take place during the shaking of the chest by fits of coughing in cases of pleuritic effusion, or of immense vomice partially filled with fluid, or when we practise auscultation immediately upon the patient raising himself from the horizontal position."

From these remarks it appears that M. Raciborski groups together the *amphoric respiration* of Laennec with the sound which we are at present considering—the principal character of both consisting, he says, in a silvery or metallic resonance. Now this *resonance* is found to accompany the sounds produced either by the entrance of the respired air into a cavity of the pleura, or by the gentle succussion of the surface of an effused fluid, or by the fall of a drop of the fluid from the upper part of the cavity upon the fluid below. Hence the sound of the metallic tinkling appertains almost exclusively to hydro-pneumo-thorax, and to extensive tuberculous excavations.

M. Raciborski does not attach much importance to the auscultatory signs furnished by the voice—as bronchophony, pectoriloquy, and egophony—unless they are in accordance with the results obtained by percussion and by auscultation of the breathing. He utterly rejects the idea of admitting the recently proposed auscultatory phenomenon, which has been termed *autophony*, and which consists in the (alleged) modification in the tone of the auscultator's own voice reverberated from the patient's chest. He adduces the testimony of M. Bouilland, and of MM. Barth and Roger in confirmation of his estimate of its utter valuelessness. He closes his memoir by expressing his hope that he has succeeded in shewing that "the sounds of auscultation are far from having an equal importance in practice, and also that the most important of these sounds may be limited to a

small number, which are easily recognised and distinguished from each other for all the purposes of useful diagnosis."—*L'Esperience*, Nos. 176 and 177.

M. PIORRY ON THE DOUBLE TIC-TAC SOUND IN THE AORTA.

It is almost unnecessary to remind our readers that the name of M. *Piorry* is, more than that of any other writer, associated with the history of percussion, as applied to the discrimination of internal diseases. Within the last few months he has written an elaborate memoir, to prove that the dimensions not only of the aorta, in its ascending portion and its arch, but even of the pulmonary artery, may be most accurately determined by *plessimetric* measurements! How far other physicians will be made converts to his statements, and will be willing to admit their practical importance, remains to be seen;—for ourselves, we must confess that we have no great faith in the value of those attempts, however ingenious, to detect all the minute shades of alleged difference in auscultatory phenomena. If we are to believe M. *Piorry*, there is little difficulty in tracing out on the walls of the thorax the *exact* position of the different parts of the heart, and of the great vessels which issue from it, and consequently in detecting any enlargement of their volume by means of percussion alone. We much fear that but few medical men can ever hope to acquire such delicacy of perception, whether of hearing or of touch, to draw any practical utility from our author's instructions.

Passing over, therefore, the rules which he gives for his *plessimetric* investigations, we wish to draw our readers' attention to some remarks which he makes on the tictac or double sound perceived over the aorta.

..... "It follows as the result of a large majority of my observations, that the sounds perceived on auscultation over the aorta and the pulmonary artery are double, and not single, as supposed by *Laennec*. At first I enquired if the second sound or period of the tictac, observed in the large vessels which issue from the base of the heart, might not be produced in the pulmonary artery, while the first sound is produced in the aorta. But as I found the double beat over the aorta considerably above the point where it is separated from the pulmonary artery, I am now of opinion that we must admit that it is the seat of both sounds. However this may be, the fact is certain that in the majority of cases a double sound may be heard over the ascending portion of the arch of the aorta, and that very rarely indeed is one sound only audible..... Now where is the point at which this double or tictac sound ceases to be heard along the course of the aorta? For we certainly know that in the abdominal portion of the vessel we no longer perceive any double beats, and that in aneurysms of the descending aorta, which are accessible from behind to accurate investigation, we never hear any double beats, except when the tumor is in contact with the heart.".....

We are certainly not satisfied from these statements of M. *Piorry* that there is any double sound from the aorta, unless what may be transmitted along it from the heart; and some of his own remarks appear to us in favour of this opinion. For example, he says: "several of the facts, which we have recorded, concur to shew that the sounds of the heart extend along the aorta. Thus in the 29th and 30th cases, a *bruit de souffle* was found to be propagated for some distance over where the *plessimetry* had shewn the arch of the vessel to be situated. Nothing similar is heard in pericarditis; the sounds in this disease being perceptible only over the spot from which they proceed."

M. *Piorry* alludes to the possibility of distinguishing a contraction of the orifice of the pulmonary artery from one of that of the aorta, by the greater limitation or restriction of the abnormal sound in the one case, and by its extension along the arch of the aorta in the other. This may probably be quite true; but how often will the distinction be appreciable?—that is the question for the practical physician.—*Archives Generales*.

ON THE TREATMENT OF HÆMOPTYSIS WITH TARTRATE OF ANTIMONY.

It might at first be presumed that the Tartrate of Antimony, in consequence of its vomitive action, should rather aggravate than arrest the spitting of blood from the lungs; but, from the observations of *Stoll*, it appears that this is really not the case. The following instance, among many others, related by the illustrious physician of Vienna, is well worthy of notice.

"I remember," says he, "to have had under my care a young Turk who had been seized with bilious fever and with profuse hæmoptysis. I immediately ordered him a vomit. The attendants were frightened at the prescription, and most anxiously awaited the effects of the medicine; being afraid that the hæmorrhage would be greatly increased by the effects of vomiting. But, no sooner had the patient rejected a large quantity of bile from his stomach than all traces of the hæmorrhage ceased, and he recovered without any return of it."

After citing numerous similar cases, *Stoll* remarks:—" *Vomentes ne guttam sanguinis rejecerant, quasi ipsa emesis hiantia pulmonum vasa quovis auxilio citius atque efficacius stringeret; et, vomitu jam peracto, aut nihil omnino sanguinis, aut ejus nonnisi paucum quid per intervalla et ad exiguum tempus comparuit.*"

It should be stated that *Stoll* seems to have employed this mode of treatment only in cases of hæmoptysis accompanied with bilious symptoms, and seldom in those where there was any marked predisposition to pulmonary consumption.

Several writers subsequently have adopted the emetic treatment of hæmoptysis, and very different results seem to have been obtained in the hands of different physicians; for, while some strongly approve of it, others as energetically condemn it. As a general remark, we may state that ipecacuan has usually been preferred as an emetic in cases of pulmonary hæmorrhage to any of the preparations of antimony; the former drug being supposed to possess a peculiar astringent property on the vessels of the lungs.

M. Nowat, one of the physicians of the Hôtel Dieu at Paris, however, has of late been using the tartrate of antimony in numerous cases of the disease, and reports most favorably of its effects. He has used it not only when the stomach and liver were evidently at fault at the same time, but also in many instances where there was no disturbance of the digestive organs, and where, therefore, the only indication was to arrest the discharge of blood from the chest.

Case.—A man, 30 years of age, was admitted into the Hôtel Dieu on the third day of an attack of hæmoptysis, which had resisted bleeding from the arm and the use of other remedial means: it was the first attack of the disease which he had ever experienced.

The symptoms on his admission were well marked: frequent cough, with the expectoration of frothy sanguineous sputa; mucous and sub-crepitant *râle* over the summit of the right lung (percussion gave a dull sound at this spot); sense of heat in the chest, and dyspnoea; pulse frequent and rather strong. There were also symptoms of considerable gastric disturbance, such as a coated tongue, bitter taste in the mouth, nausea, &c.

An emetic of tartrate of antimony was ordered; the stomach symptoms were quickly relieved, and the spitting of the blood entirely ceased.

The *second* case is very similar, and the *third* one was still more severe.

A middle-aged woman was seized with a second attack of hæmoptysis, which had already continued for four days before *M. Nowat* saw her. The previous attack had occurred two years before, and had lasted for nine days, before the hæmorrhage entirely ceased. An antimonial emetic was at once ordered her; it caused her to vomit three or four times freely; at the expiry of a few hours the sputa ceased to exhibit any trace of blood; and, from this time, they were nearly colourless.

After mentioning another successful case, M. *Nowat* then adduces the history of other two cases, in which the emetic practice failed altogether in arresting the sanguineous expectoration. In one of these, the patient was evidently labouring under tubercular phthisis in an advanced stage; the first dose of the emetic seemed to produce little or no effect on the pulmonary hæmorrhage; but, on being repeated a few days subsequently, it was distinctly increased, and considerable difficulty was experienced in subduing it.

M. *Nowat* candidly admits that the exhibition of emetics in a case of hæmoptysis, where we have reason to suspect ulceration of the lungs, is scarcely warrantable, and he very judiciously adds, that the practice is best suited to those cases of the disease, in which the hæmorrhage is of an active nature and is accompanied with the *molimen hæmorrhagicum*.—*Bulletin de Therapeutique*.

Remarks.—We have, for several years past, been in the habit of employing the tartrate of antimony in the treatment of hæmoptysis; but rather in small doses repeated at short intervals, than in full doses as an emetic. For example, a grain and a half, or two grains of the salt may be dissolved in eight ounces of water, and half an ounce of syrup of poppies added to the solution; of this mixture, two table-spoonsful should be given every two or three hours. We can confidently recommend this practice, both for its safety and its efficacy.—*Rev.*

M. TROUSSEAU ON TRACHEOTOMY IN CHRONIC DISEASES OF THE LARYNX.

Professor *Trousseau* has now performed this operation in 113 cases—in eight only of which was it resorted to for chronic disease of the larynx. He ascribes the frequent failure of the operation to the too small size of the canulæ employed before the time of M. *Bretonneau*, his revered preceptor. He himself has recommended and introduced the use of a dilator, which much simplifies the operation, renders the ligature of the divided bloodvessels almost unnecessary, and greatly facilitates the introduction of the canula into the larynx.

But although the operation may be simplified, it must always be regarded as of serious moment, and should never be resorted to without absolute necessity. For, even when the death of the patient cannot be attributed to the operation, there is in many cases after its performance a marked tendency to the supervention of some acute disease of the lungs, which generally proves fatal.

Of the 8 cases, in which M. *Trousseau* performed tracheotomy in consequence of chronic diseases of the larynx, two died from rapid pneumonia. He attributes this tendency to pulmonic inflammation, which is apt to follow the performance of the operation, to the *stasis* or congestion of the blood induced by the embarrassment of the respiration. It would seem, however, from his own statements, that this predisposition to a rapidly fatal pneumonia is not greatest in those cases where the dyspnoea has been most severe before the operation, and moreover, that in such cases the relief obtained is often as decided and as permanent as in other instances, where the difficulty of breathing has not been so great. He has reported several cases in which he has performed the operation successfully on children when the asphyxia was already complete, and life seemed to be utterly extinct; and to these may be added a very extraordinary instance which occurred in the practice of M. *Bretonneau*. This distinguished practitioner being called to operate on a child, had the misfortune of seeing it expire, to all appearance, before the preliminary incisions were completed. M. *Bretonneau* however, without delay, opened the larynx, introduced a canula, and practised artificial respiration. At the end of a few minutes, the child began to breathe, and at length became completely resuscitated. A few days subsequently it was again seized with great difficulty of breathing; this, however, was ultimately relieved.

M. Trousseau relates a case which is very similar in many respects, to this one. In June, 1839, Count B. consulted him for a loss of his voice. His constitution had been a good deal injured by irregularities of living, as well as by syphilitic disease; and for the preceding four years he had been subject to epileptic fits. His voice, for a year or two before it was entirely lost, had been thick and indistinct. M. Trousseau was inclined at first to consider the *aphonia* to be owing to a chronic inflammation of the larynx, and recommended the local application of a solution of the nitrate of silver, and of the insufflation of a powder consisting of calomel and sugar, along with the use of antiphlogistic remedies, blisters to the throat, &c.

No relief however was derived from this mode of treatment; indeed the symptoms became worse. An active syphilitic treatment was therefore commenced; but in about a fortnight afterwards the patient was suddenly seized with a fit of suffocation. MM. Marjolin and Cruveilhier were called into consultation, and, as both these surgeons regarded the case as one of syphilitic disease, the same remedies were continued, along with a bleeding from the arm, and the insertion of a seton in the neck. The following night and day, the symptoms of asphyxia were terrible, and, as the patient seemed every moment about to be suffocated, it was resolved to perform the operation of laryngotomy. Before, however, this could be done, the respiration had ceased, the pulsations of the heart could scarcely be felt or heard, and the patient had all the appearance of a dead man; no blood flowed from the wound, and when the canula was introduced, no respiratory movements followed.

By first compressing the chest with great force and pulling down the edges of the ribs, so as to empty the lungs of the air they contained, and then drawing them up, as in a deep inspiration, the air entered the canula with force. These manœuvres were continued for nearly ten minutes, before the pulse at the wrist could be felt. The artificial respiration was persevered in for fifteen minutes more; and then the action of the heart and arteries was fairly re-established. Ten minutes later, the face was slightly convulsed; and soon afterwards an attack of general eclampsia succeeded, during which the air was drawn in with great violence into the chest, and this was followed by a state of stupor. In an hour and a half after the operation, the patient recovered his consciousness. From this moment, everything went on well; the canula was changed twice every day, and the distress in breathing gradually became less and less. In the month of December (the operation had been performed in the middle of August) the patient appeared to be perfectly well, although he still wore the canula. At this period, the larynx was found to have acquired nearly double its usual volume, and the angle formed at the meeting of the two thyroid plates had become very obtuse. When the canula was closed, no air passed through the larynx from the throat. The diagnosis therefore was, that a tumor existed in the larynx, which would ultimately prove fatal. The deglutition began about this time to be impeded; and at length, in the following May, the poor patient died. A cancerous tumor was found on dissection.

The embarrassment in such cases is to determine what is the exact nature of the existent disease. M. Trousseau, however, lays it down as a maxim that the operation is never useless, unless there be serious co-existing disease in some other part of the body at the same time; and even then that the life of the patient may be prolonged, although we cannot hope permanently to recover our patient. Whenever, therefore, the diagnosis of such a complication is uncertain, he thinks that we should always give the patient the chance of benefit, by performing the operation.

M. Trousseau insists much on using canulæ of a larger size than are usually employed. He uses a middle-sized one at first, and gradually increases the size, until the air ceases to make almost any noise passing through it during a deep inspiration.—*Journal des Connoiss. Med. Chirurg. and La Gazette Medicale.*

UTILITY OF MUSK IN PNEUMONIA ACCOMPANIED WITH DELIRIUM.

When sanguineous and other evacuations have been carried to a great extent in pneumonia and other inflammatory diseases, delirium not unfrequently supervenes. In such cases Professor *Recamier*—one of the most practical physicians of the French school—has obtained the most gratifying results from the administration of musk in large doses. This practice has subsequently been adopted with equal success by many others. Dr. *Roche* has recently detailed several cases in illustration of its good effects, in a late No. of the *Journal des Connoissances Medico-Chirurgicales*. We give an abridged report of one.

A man, 54 years of age, was seized with all the symptoms of severe pneumonia, on the 20th April 1840: he was bled profusely from the arm, and for the next two days he was much relieved. A state of great restlessness and of mental incoherence supervened, and the urine was passed involuntarily. Leeches were applied to the head, sinapisms to the calves of the legs, and repeated doses of antimony were administered. But no relief was derived from these remedies: the pulse at this time was frequent, small and compressible. A grain of musk was ordered to be given every hour; and soon the patient fell into a tranquil sleep. The somnolence continued for nearly twenty-four hours, and then the patient awoke much refreshed, but not at all aware of what had occurred during the last few days. The musk was continued in less frequent doses, and in the course of a day or two he was fairly convalescent. About two scruples of musk had been taken in the course of three days.—*Gazette Medicale*.

ON THE DANGERS OF PARACENTESIS THORACIS, AND THE BEST MEANS OF OBVIATING THEM.

Dr. *Reybard* of Lyons, author of the following observations, is strongly impressed with the opinion that the chief danger of making an opening into the cavity of the chest, for the purpose of giving exit to any effused fluid, arises from the admission of the external air—whereby the fluid, of whatever nature it may happen to be, becomes vitiated, and inflammation of the lining membranes is apt to be excited. While a student at the Hôtel Dieu in Lyons, in 1816, he had an opportunity of watching several cases, in which paracentesis thoracis had been performed, and he was then led to the conclusion that it is during the act of *inspiration* that the external air is sucked in into the cavity of the pleura. If the wound or opening into the chest be of large dimensions, it will be at once apparent that, during every act of *expiration*, the effused fluid is forced out in greater or less quantity, while it is equally obvious that, during every act of *inspiration*, the air is drawn from without inwards. Dr. *Reybard*, in subsequently performing the operation on the human subject, used the precaution of plugging the canula of the trocar during each inspiration, and of allowing the escape of the fluid only during the movements of expiration. Unfortunately, however, when nearly all the fluid was thus safely withdrawn, the patient was seized with a violent fit of coughing during an act of expiration, and air was admitted into the pleural cavity. A shivering came on in a few hours after the operation; this was followed by all the usual symptoms of pleuritis, which proved fatal on the third day. Dr. R. attributed the disastrous issue entirely to the admission of air into the chest during the act of coughing. He determined therefore to employ some new expedient in the next case, which might occur in his practice, to obviate this serious evil.

For this purpose he fitted on to the open end of the canula a bladder, which was easily emptied of all air, before the opening was made into the pleura; the effused fluid flowed into the bladder. But there was this inconvenience; that if air

escaped at the same time, as must be the case in cases of hydro-pneumo-thorax, then this air was apt to collect in the upper part of the bladder, and to be again sucked into the chest during inspiration. To prevent this inconvenience, it occurred to Dr. R. that it would be sufficient merely to divide the bladder, and to leave attached a portion of it, of about 81 *centimetres* in length, to the extremity of the canula. This portion of bladder or gut, or what is still better, a piece of gold-beaters' skin, well softened in water, then acted as a valve—during expiration the fluid and air from the chest escaped by separating its thin and yielding, but constantly contiguous, surfaces, whereas during inspiration, it was drawn in and puckered around the opening of the canula by the suction exercised from within.

Dr. R. with the use of this very simple apparatus has subsequently performed the operation of paracentesis thoracis several times, without ever incurring the risk of the external air finding its way into the cavity of the pleura. While the stream of fluid that escapes by the canula is uninterrupted, there is little or no risk of this mischief; but in a minute or two it will be observed that the stream becomes less and less continuous, and then that the discharge takes place only during the acts of expiration. It is at this time that the bladder-valve of our author will be found to be truly useful, in preventing the admission of the air during the acts of inspiration.

As to the mode of managing different cases of empyema, Dr. *Regbard* observes:—

“If the effusion be recent, we may evacuate at once the whole of the fluid in the chest, because the lung, which has not been long compressed, will probably be able to dilate itself and resume its normal volume, when the compressing force is withdrawn. If, on the contrary, it has existed for several months, it may be more judicious to discharge the contents only partially, so as to permit the compressed lung to regain its former dimensions by degrees. Under such circumstances, I am of opinion that we should leave the canula, provided with the membranous valve, in the wound, so as to give a constant drainage, so to speak, from the pleural cavity, and thus enable the lung to expand itself gradually. If we adopt this practice, it will be found better to perforate the chest by drilling a hole through one of the ribs, than merely to divide the soft parts in an intercostal space with a trocar or bistoury.”

It would appear, however, from a subsequent part of his memoir, that M. *Regbard* prefers to withdraw the canula after the operation, and re-introduce it once or twice every 24 hours for several days successively, than to leave it constantly in the wound.—*Gazette Medicale*.

ON HYDATIDS IN THE CHEST—REMARKABLE CASE, WITH OBSERVATIONS.

There is scarcely an organ or tissue of the body in which these parasitical formations have not been discovered.

They are very common, it is well known, in certain ruminant animals, as in cows and sheep. In the human body, they are usually small and numerous; but in the lower animals we more often find only one hydatid which has attained a large size. In them, as in man, the liver and the lungs seem to be the organs in which hydatidic formations are most frequently developed.

What is the cause of such curious intus-conceptions? M. *Cruveilhier*, in his most ingenious work on this subject, published a few years ago, suggested that they might be owing to the introduction of unassimilated living molecules or germs into the blood from the alimentary canal, and circulated along with the blood to every organ of the body, until they became arrested in some part, and there grew and multiplied. Whether we admit this hypothesis or not, we cannot

hesitate to acknowledge, with M. *Cruveilhier*, that insufficient nourishment and a residence in a damp unwholesome locality have an incontestible influence in favoring the production of acephalocyst germs. M. *Dupuy*, the distinguished professor in the veterinary college of Alfort, has arrived at the same conclusions with M. *Cruveilhier*.

By keeping in memory these two ascertained facts—1, that the development of hydatids is promoted by imperfect alimentation, and 2, that the organs most frequently affected, the liver and the lungs, are the organs of *hematosis*, through which the whole or the greater part of the blood passes—we certainly make some progress in discovering the etiology of these singular growths.

Andral has reported in his *Clinique* seven cases of pulmonary acephalocysts. In all of them there had been during life an almost constant dyspnoea, which, in some of the patients, amounted to decided orthopnoea. The same suffering was present in the four cases related in the work of *Cruveilhier*—all of them having been afflicted with difficulty of breathing, which in two cases became every now and then quite suffocative. Neither of these distinguished physicians had been able to form a just diagnosis of the disease during the life of their patients; as, with the exception of the dyspnoea, the other symptoms were not quite alike in any two cases. Thus in one of *Andral's* cases, the symptoms seemed to indicate the existence of tubercles, in another of pulmonary emphysema, and in a third of chronic pneumonia or pleurisy.

The following remarkable case, recorded by Dr. *Max. Simon*, will be read with interest :—

A middle-aged woman had enjoyed good health till the year 1837, when she became, she said, subject to complaints in the throat, and to some difficulty of breathing whenever she walked quickly, or went up stairs; there was also some degree of fever, and a slight cough at the same time. All these symptoms, however, gradually declined, and she recovered her usual health.

In 1839, the symptoms returned with greater severity, and, notwithstanding the use of bleeding, blistering, &c., the dyspnoea became suddenly almost quite suffocative, the face being livid, the throat swollen, and the cellular substance at the upper part of the chest emphysematous. The poor creature could not speak, but pointed with her hand to the front of the throat, as if something there prevented her drawing her breath. Dr. *Simon* suspected a sudden invasion of oedema of the glottis. In spite of all the remedies that were used, the woman died in about forty-eight hours after the seizure.

Dissection.—The larynx and trachea exhibited no abnormal appearances. On opening the chest, however, there was discovered an immense pouch developed at the expense of the mediastina, and situated between the two lungs, which were in consequence much compressed. This pouch had been accidentally opened, and was, therefore, nearly empty when examined. It still, however, contained a great number of hydatids; but a much greater number were found floating loose in the blood, which had escaped from the divided venæ cavæ into the cavity of the pleura.

Remarks.—A curious feature in this, and in such-like cases, is the intermittence of the symptoms, and often, too, the sudden invasion of danger, when there must have been a constant and very serious lesion of so vital an organ as the lungs, during a great length of time. The most conspicuous symptom in the present instance, as well as in those related by MM. *Andral* and *Cruveilhier*, was the dyspnoea; and neither auscultation nor any other means of diagnosis could detect to what cause this dyspnoea was attributable. It is rather from the absence of those symptoms which characterise the more common diseases of the lungs, while there is still more or less dyspnoea, than from the existence of any special symptoms, that we may be led occasionally to suspect such a disease as that of hydatids in the organs of respiration.

"An important information, which may throw great light on a diagnosis so difficult, but of which physicians almost always deprive themselves, in consequence of not weighing with sufficient attention the account which patients give of their previous symptoms and condition, is the expectoration of either entire hydatids or of simple debris, the nature of which, however, is usually sufficiently distinct to be at once recognised. Thus, in the case which we have briefly reported above, the parents of the patient told us that he had on more occasions than one expectorated sputa, which were like pieces of skin rolled upon each other, and that, after such expectoration, he had always been much relieved: at the time we thought nothing of their statement, and only remembered it when the hydatid cyst was laid open on dissection. Consider how much this circumstance might have aided us, not only in the diagnosis of the disease, but also in suggesting a mode of treating it! For example, we at once understand how utterly useless large bleedings must be in such a case, whereas the employment occasionally of powerful emetics might have assisted nature in dislodging the contents of the hydatidic sac."

M. Simon closes his remarks by alluding to another case, which had occurred in his practice, and in which the expectoration of the hydatids appeared to be considerably promoted by the inhalation of the vapour of æther; the patient, however, ultimately died from disease of the heart.—*Journal des Connoiss. Med. Chir.*

ON HYDATIC TUMORS OF THE LIVER.

Although allusions to these morbid formations may be found in the writings of the older physicians, and even of Hippocrates and Aretæus, it has been only within the last few years that much attention has been paid to their history.

As might be expected, much obscurity hangs over the question of their ætiology, or, in other words, of the causes which give rise to them. Professor Cruveilhier has suggested an opinion, more ingenious perhaps than probable, which rests on the frequency of hydatids in the tissue of the liver, and on the circumstance that this viscus is the *aboutissement* of all the abdominal venous blood, and consequently must receive along with the blood various materials, and organic materials which are imperfectly elaborated and animalised: these, he supposes, being deposited either in granulations or in the cellular tissue, become at length capable of a separate and individual life. It does not appear, as far as we know, that age, sex, or constitution, has any influence on their *genesis*. Among some of the lower animals, indeed, it would seem that imperfect nourishment and a damp unwholesome locality are sufficient to cause the development of hydatids in great frequency; but in the majority of the cases in the human subject, which have been collected together by M. Barbier in his recent work (*De la Tumeur Hydatique du Foie*, Paris, 1840), and amount to thirty-four in number, there is certainly no evidence to shew that these agencies had had any influence.

The existence or absence of the cyst, and the number and size of the hydatids, are circumstances which are very variable, and cannot be ascribed to any appreciable phenomenon. As to size, the hydatid tumor has in some instances been found to weigh several pounds; and then, as to their number, M. Barbier has found that, in twenty out of the thirty-four cases alluded to, there was only one hydatid tumor, in ten, there were more than one, and in seven, similar tumors were found in other viscera.

The symptoms of hydatid tumor of the liver are referrible almost altogether to its action on this viscus, and on the adjacent organs—as, for example, pain in the right hypochondrium, jaundice, ascites, and œdema of the lower extremities, disturbance of the digestive functions, and occasionally, also, of the respiration,

circulation, and nutrition, &c. There is, however, one which is peculiar to this affection, and has been described under the appellation of the *bruit hydatique*, heard on percussion of the tumor. It is a complex phenomenon, being partly a sort of fluid sound perceived by the ear, and partly a vibrating trembling felt by the finger which strikes. It requires much tact and a good deal of practice to discover its existence in any case: but, if once fairly ascertained, it is pathognomonic of the disease.

There is another means of diagnosis which may always be resorted to, whenever there is any uncertainty—we allude to that of puncturing the tumor with an exploring needle.

M. *Recamier*, so distinguished for his admirable skill in diagnosis, has practised this method with success in numerous cases.

The progress and duration of hydatid tumors of the liver vary exceedingly in different cases. In some, the disease does not give rise to any distinct symptoms until the swelling has attained a considerable size; in others, pain and feverish irritation accompany its early development.

The modes of its termination, when left to itself, are various, and this, like many chronic diseases, often exhibits the resistance which the animal economy opposes to the progress of morbid action. Sometimes the tumor breaks outwardly; at other times it opens into some part of the alimentary canal, or, after causing a perforation of the diaphragm, it discharges its contents into the bronchi of the adjacent portion of the lungs.

As to the treatment of hydatid tumors of the liver, we need scarcely say that any internal remedies can have little or no action upon their development, further than as they may tend to improve the general health of the patient, and thus fortify nature in her sanatory efforts. Surgery alone offers resources which inspire any confidence, and in the hands of an able practitioner may conduce to the cure of the disease. M. *Recamier*, as already stated, has set the example, and shewn us how to act under such circumstances. When once he has ascertained, by means of puncturing with a small trocar, that an encysted tumor is really present, he makes an eschar over the most prominent part with the potassa fusa, and repeats the application, at longer or shorter intervals according to the circumstances of the case, until the entire thickness of the abdominal parietes at that point is destroyed. The object is in part to reach as near as possible to the cyst before opening it, and in part also to cause an adhesion between the opposite surfaces of the peritoneum over it, so as to prevent the effusion of its contents into the cavity of the abdomen, when it is opened either by a new application of the caustic or by a cutting instrument.

When the sac has been evacuated, there still remains an important condition to fulfil; viz., to prevent its internal surface, which is sometimes very extensive, from suppurating and thereby inducing an irritative fever. To avoid this accident, M. *Recamier* is in the habit of filling the sac immediately with tepid water: this he renews every day, gradually diminishing the quantity injected, as the cyst contracts and its cavity becomes lessened.

By adopting the course of treatment now recommended, this accomplished physician has succeeded in effecting a cure of the disease in a considerable number of cases. Dr. *Jobert* and some other practitioners have also tried it, and have obtained most satisfactory results from it. The reader will find the detailed reports of several of Dr. *Jobert's* cases in the Thesis of M. *Barbier*.

TREATMENT OF ENLARGEMENTS OF THE SPLEEN.

Dr. *Bowyer*, who informs us that his experience in the treatment of agues and of their consequences has been extensive for a series of years, regards almost every

case of enlargement of the spleen as attributable to a passive congestion or accumulation of blood in its spongy parenchyma, the result of a retarded or impeded state of the abdominal circulation. It is not therefore by depletory means, or by any form of antiphlogistic treatment, that we can expect to reduce the (wrongly called) hypertrophied condition of this viscus. On the contrary, it is on fortifying the general system and promoting at the same time greater activity in the transit of the blood through the abdominal viscera, that we are chiefly to rely. If any drops of the intermittent fever continue, the quinine, or some other form of bark, must be exhibited freely and in large doses. As the fever abates, the doses are to be gradually lessened; but the use of the medicine in some form* must be continued for a length of time. Frictions of the left hypochondrium, either dry or with some gently stimulating application, should be daily used; and immediately after each friction, a flannel belt should be put rather firmly around the abdomen. Out-door exercise is generally very useful; and, if the patient is residing at the sea-coast, he should try the effects of warm salt baths.

It is unnecessary to say that the state of the intestinal and the urinary secretions must be carefully attended to. Much harm is however apt to be done by the excessive use of purgatives; they tend to weaken the bowels, and thus to enfeeble the abdominal circulation. Dr. *Bouyer* does not approve of drawing blood by cupping over the left hypochondrium, as recommended by Drs. *Levy* and *Nonat*; but he does not object to the use of dry-cupping, which may tend to invigorate and excite the transit of blood through the spleen and the adjacent viscera. If the enlargement does not yield to the use of the means now mentioned, Dr. B. very strongly recommends the application to the affected side of an emplastr. ammoniaci cum hydrargyro, with which has been incorporated a scruple or half a drachm of quinine, not omitting the use of the abdominal belt, and of bark or quinine internally at the same time.

No progress in the relief of the local evil can be made, if the employment of constitutional means be not carefully persevered in. In cases of very long standing, and where the viscus has become exceedingly enlarged, we are not to expect to effect a complete reduction to its healthy dimensions; we may, however, almost uniformly succeed in discussing the swelling very considerably, if the constitution of the patient be moderately sound.—*Gazette Medicale*.

M. BRESCHET ON HYDROPHOBIA.

It seems that, upwards of five and twenty years ago, M. *Breschet*, in conjunction with the late Baron *Dupuytren* and M. *Majendie*, undertook the work of investigating some of the most interesting topics connected with the history of this obscure and dreadful malady.

In addition to watching most attentively all the cases that were brought to the Hôtel Dieu at Paris, these distinguished physiologists performed numerous experiments on animals at the Royal Veterinary School at Alfort and elsewhere, with the view of determining the laws of the transmission of the hydrophobic virus from one animal to another. Their conjoint labours were interrupted by the political convulsions of the period, and were never afterwards resumed, at least with decided energy; but as some of the results of their researches are perhaps not generally known, M. *Breschet* has very wisely deemed it right to make them public, more especially as, of late years, doubts have been expressed by some writers as to the contagious nature of hydrophobia.

* The decoction and the vinous tincture of cinchona are often exceedingly useful towards the decline of the fever.

The disease very rarely, if ever, appears spontaneously in other animals but those of the dog tribe; and certainly there is no authenticated case of its spontaneous uncommunicated origin in the human species. It has been from not having established the difference between the mere nervous affections in which there may happen to be a dread of fluids and a difficulty of swallowing, &c. and communicated *rabies*, that some authors have confounded *hydrophobia* with genuine *rabies*, and have thus been led into the error of regarding the latter disease as occasionally of spontaneous origin.

M. Breschet, after examining this question at considerable length, proceeds to narrate some interesting experiments.

On the transmission of Rabies from Man to the lower Animals.

In May 1813, a man, 24 years of age, was bit by a mad dog, which had attacked a number of persons, several of whom were taken into the Hôtel Dieu, and had the wounded parts cauterised with a hot iron. Three of these persons were still in the hospital, when our patient, *Surlu*, was admitted on the 18th of June, on the third day after the first manifestation of the symptoms of *rabies*. He had received three bites on his right heel, which had been ineffectually cauterised an hour after the accident with the butter of antimony. The wounds healed, and the man, free of all apprehensions of future mischief, had been living an irregular debauched life, when suddenly a change came over his whole character; he lost his usual vivacity, all his movements became quick, hurried and impatient; he was every now and then sitting down, and then rising up without any object or motive; at times he began to weep, and express his alarm that he should become mad. Next day he manifested a repugnance to liquids, and when offered to him to drink, he forced them away from him. The eager vivacity of his looks, the restlessness of his whole body, the frothy fluid which was constantly flowing from his mouth, or which he spat out, the pain and sense of constriction in the back of the throat, and the horror at all liquids, left no doubt as to the nature of the case. MM. *Dupuytren* and *Breschet* determined to try the effects of injecting a solution of opium into the circulation. For this purpose a vein was opened in the arm, and, by means of *Anef's* syringe, a solution of two grammes of the aqueous extract in a small quantity of water was thrown into it. A few instants afterwards a pleasing calm supervened, so that, in the course of about four hours subsequently, four grains of the same medicine were administered in the same manner. For some hours there was a remission of the chief symptoms. But this calm was only temporary; all his former distress returned; he was in a state of constant agitation and restlessness, and every now and then uttered the most dreadful screams. Next day, he was more exhausted, but still retained his consciousness most perfectly. Six grains of the opiate extract were again injected into the venous circulation, and again it produced very soothing effects; but the patient became more and more exhausted, and he died in the course of the night.

MM. *Breschet* and *Majendie* having collected a considerable quantity of the frothy saliva from the mouth of the patient, inoculated two middle-sized dogs with it, inserting it into a wound on the back of the animals. This was done on the 19th of June; and on the 27th of July, one of the dogs (the other having made its escape before it was secured) manifested the symptoms of decided *rabies*. It bit several other dogs which were exposed, and every one of these became subsequently mad. "We could," adds M. *Breschet*, "by means of inoculation, keep up the disease in a number of dogs successively, in order that we might have constantly a supply of the *rabic* virus at command to enable us to pursue our experiments."

It was observed that the disease developed itself most frequently in from the 20th to the 30th day after the bite; occasionally, however, it did not appear until the end of three months afterwards.

There was reason to believe, from the results of several experiments, that the

disease is not so readily communicated from one dog to another, when the contagious principle, the saliva, has been transmitted through three or four animals successively. If this remark be confirmed, it would shew that the virus becomes less and less active by passing successively through the systems of several animals.

In a few instances there was in truth no hydrophobia present ; for the animals drank with eagerness any fluid that was put before them. This circumstance alone suffices to shew that genuine *rabies* and mere *hydrophobia* are by no means the same morbid states.

Before quitting this part of our subject, we may state that as yet we know of no authenticated example of the disease having ever been communicated from one human being to another, although there is every reason to dread such an event, if the saliva were permitted to be introduced into the system. We may mention also that when the patient, whose case we have given, was under treatment, there was a good opportunity of testing how far mental emotions can, of themselves, give rise to the symptoms of genuine *rabies*. When poor *Surls* was brought to the Hospital, it soon became known to all the inmates that he was there, and that his death was looked for every hour. Now among these inmates were three persons who had been bitten by the same dog as the patient ; and they remained in the hospital for nearly two months afterwards ; but fortunately, notwithstanding this long protracted agony of fear, they entirely escaped any threatening of hydrophobia.

On the transmission of Rabies from Carnivorous to Herbivorous Animals.

M. *Breschet* exposed a strong healthy donkey to a dog that was furiously mad ; the dog bit it in several places. Three weeks afterwards the donkey exhibited all the symptoms of *rabies* in the highest degree. "I may even affirm," says our author, "that I have never seen any animal that was more furiously rabid, or that manifested a stronger disposition to bite : it tore its own skin in several places."

M. *Breschet* also inoculated two horses with the froth collected from the throat of rabid dogs, by means of a sponge at the end of a rod. Both animals were subsequently seized with all the symptoms of *rabies*, but neither of them was so furious as the poor donkey.

On the transmission of the Disease by inoculation from Solipedous to Carnivorous Animals.

M. *Breschet* took some of the saliva of the horses and the donkey, that were rabid, and introduced it under the skin of the back of several dogs, all of which became mad in from 25 to 40 days after the operation. As this experiment was made not on one dog only but on several, and with uniformly the same results, we cannot hesitate to admit that the disease is readily transmissible from herbivorous to carnivorous animals—a fact which has been denied by some veterinary surgeons.

The dogs, which had thus become mad, were allowed to bite other dogs ; and these too became affected in the same degree.

M. *Breschet* has therefore no doubt in his own mind as to the transmissibility of the disease ; but he candidly admits that other experimenters have failed in their attempts to inoculate carnivorous from herbivorous animals (vide *Journal de Magendie*, t. viii.). As, however, one positive fact is worth a cartload of negative ones, the opinion of our author must be assented to. He has not been able to determine whether the disease can be transmitted by inoculation from one herbivorous animal to another of the same tribe. Several veterinary surgeons have denied the possibility ; but our author seems not to be quite satisfied on this point.

M. *Breschet*, in the course of his researches, endeavoured to ascertain the

effects of the poisonous virus, the saliva of a rabid dog, on some of the rodent tribe of animals. He therefore inoculated several rabbits, guinea-pigs, &c.—the animals died, but without manifesting any of the symptoms which are characteristic of the genuine disease.

The same result attended his experiments on birds.*

Before concluding his remarks on the transmission of the virus of *rabies* from one animal to another, our author informs us that he has made several experiments on carnivorous as well as on herbivorous animals, with the view of ascertaining whether the disease can be communicated by applying the saliva of a mad animal to an unabrased mucous surface in another. For this purpose he introduced portions of sponge charged with the saliva, into the mouth and rectum of several animals; but on no occasion did any symptoms of contamination ensue.

These negative results agree with those obtained by *Fontana* in reference to the poison of the viper; but they are in opposition to what has been stated by *Esmar* and *Chaussier*, who inform us that they once saw a man affected with genuine *rabies* after having received on his lips the saliva of a mad dog.

M. *Breschet*, in conclusion, briefly indicates the principal morbid changes which he has observed in the bodies of men and of the lower animals which have died of *rabies*.

We might expect that the pharynx always exhibited some abnormal appearances; but such was far from being uniformly the case. In some cases, however, the isthmus of the fauces, the velum, the pharynx and œsophagus, presented a strongly-marked *tête rosée*, bordering occasionally on a violet hue. A quantity of frothy mucosity, similar to that of the respiratory passages, covered the surface of those parts as far down as the commencement of the œsophagus.

There was no very obvious lesion of the circulatory organs, except perhaps the distention of the pulmonary capillaries with black blood. We regret that we had not examined the blood either by chemical analysis or with the microscope: it is an omission which our author wishes to be filled up, although he has no reason to believe that the fluids have undergone any considerable change.

The examination of the nervous system has frequently revealed a highly-injected state of the vascular network of the pia mater, more particularly around the fissure of *Sylvius*: in some cases a sero-gelatiniform effusion has been found in the cellular tissue of this membrane, and along the course of the principal arterial branches. It has been alleged by some, that there are usually observed signs of inflammation of the encephalon and of the spinal medulla; but, with the exception of a vascular state of the arachnoid membrane, and occasionally of a soft-

* M. *Breschet* remarks that the absorption of poisonous substances is usually very rapid and active in birds, and he mentions a curious circumstance which deserves to be generally known, as it may possibly suggest a useful hint in the treatment of poisoning with certain substances. After stating that he had performed a good number of experiments by inoculating various birds with the virus of some West India reptiles, and that they (the birds) all quickly died, unless prompt relief was given them—he adds—"I say unless prompt relief was given them; because we possessed a certain means of annihilating the deleterious action of the poison, which invariably succeeded, if not delayed too long. This consisted in establishing an electrical current from the wound of inoculation, by means of a metallic wire communicating with one of the poles of a galvanic pile in action, the other end of the wire being in contact with another part of the animal's body. Under the influence of the electrical current, the morbid actions induced by the poison became gradually less and less, until they finally ceased."

M. *Breschet* suggests the trial of it in cases of inoculation with the *rabie* virus.

ened state of some part of the cerebro-spinal axis, as well as of a sero-albuminous infiltration in the loose sub-arachnoid tissue, we have never detected any well-marked lesion to indicate a previous inflammatory action.

The lungs have been observed to exhibit a more or less deep red hue, which in some instances passed into a dark brown colour. This appearance was usually circumscribed to certain parts; more rarely it extended over the entire lungs. One of the most frequent morbid phenomena was the discolouration of the mucous membrane of the bronchi and occasionally also of the trachea: the hue was usually a dark red, verging into a violet or even a brown colour. In several instances there was interlobular emphysema of the tissue of the lungs over a greater or less extent. *Morgagni* has alluded to this sort of infiltration of air into the pulmonary tissue.

M. *Breschet* is of opinion that the frothy discharge from the mouth is not mere saliva (the salivary glands seldom exhibit any abnormal appearance), but is rather a diseased secretion from the fauces, pharynx, &c.—*L'Experience*, No. 171.

We observe that a well-marked case of hydrophobia was recently admitted into La Charité hospital under the care of M. *Bouillaud*. The disease came on nearly four months after the bite of a dog, the patient's health having remained quite good during the interval.

The appearances found on *dissection* were, as usual, very unsatisfactory. Nothing abnormal was to be seen in the mouth, fauces, or pharynx. Towards the lower part of the œsophagus there were several small ecchymosed spots on its mucous surface. All the abdominal viscera appeared quite sound. The lungs and heart also were sound. The meninges of the brain were somewhat congested; but the cerebral substance was unaltered. The medulla oblongata seemed to be a little softer than usual: the medulla spinalis and its membranes were sound.—*Gazette des Hôpitaux*.

MAJENDIE'S METHOD OF TREATING NEURALGIA.

The remedy, *par excellence*, recommended by M. *Majendie* in the treatment of obstinate neuralgia of the face and other parts, is electro-acupuncture. The needles should be made of an unoxidisable metal, and therefore those of platina are to be preferred. With respect to the mode of introducing them, it is better to push them at once and with a sort of plunge, than to endeavour to drill them more slowly. In most cases two needles are quite sufficient; one near the origin of the nerve, and the other near its termination or expansion. The former is then to be connected with the positive wire, and the latter with the negative wire of a galvanic apparatus. The patients usually describe the sensations experienced as if a spark or stream of lightning passed instantaneously along all the divisions of the nerve: at the same time the muscles of the part are thrown into contractions. The application is not to be continued beyond a few seconds, except in some severe cases, in which a continued stream must be maintained for some time. M. *Majendie* gives the preference to *Clarke's* electro-magnetic machine, as being altogether more convenient than any other for the purposes of electro-acupuncture.

If the neuralgic pain leaves one branch of a nerve to fix itself upon another branch, or upon another nerve, one or both needles are to be withdrawn, and should be inserted along the course of the nerve newly-affected.

Several cases of supra-orbital neuralgia are adduced, in which the employment of electro-acupuncture speedily dispelled all suffering. The following one, in which the superior maxillary branch of the fifth pair was the affected nerve, may deserve to be noticed.

M. *Thelin* had been subject to frequent attacks of most severe neuralgia, af-

fecting the superior maxillary nerve of the left side, when he first consulted M. *Majendie*. The pain in the gums, lips, cheek, and ala nasi were insupportable; the patient could scarcely utter a word, and, as for mastication, that was impossible. All methods of treatment had been tried, and all tried in vain. What with having many of his teeth extracted, and being leeches and blistered, and physicked for months and months at a time, his constitution had suffered severely. He consulted M. *Majendie* on the 5th of March, 1838: at one sitting of a few minutes the pain was *chassé*. Since that period, whenever the neuralgia returned, he repaired to M. *Majendie*, and always left him cured of his suffering. It is now several months since he has had an attack.

In the second volume of our author's lectures on the nervous system, he has related two cases of severe neuralgia affecting the tongue; in one of which the disease had lasted for four, and in the other, for one year. . . . "A very fine platinum needle was inserted into the trunk of the facial nerve, where it enters the parotid gland, and another was inserted into the affected side of the tongue. In this manner I was sure to act on the seventh and fifth pairs of nerves, since I punctured the trunk of the first and the lingual branch of the second. The needles were then connected with the wires of *Clarke's* machine. In one of the patients the pain in the tongue immediately ceased, but it fixed itself on the mental branch of the inferior maxillary nerve. The needle was forthwith withdrawn from the tongue and inserted over the *foramen mentale*. The pain was driven from this point, but it was almost immediately transferred to the infra-orbital nerve. The needle was, therefore, introduced over the aperture from which it escaped. The enemy was thus pursued from one point to another, and ultimately was expelled before the patient left my house. In the other case, the pain, when driven from the tongue, took refuge in the sub-orbital nerve; driven from this, it returned to the tongue, whence it was again dislodged. Ultimately the patient was quite cured."

Certainly such practice is infinitely superior to that of attempting to divide each nerve, that becomes successively affected, as practised, for example, by M. *Roux* in a recent case, where he divided first the mental branch of the inferior maxillary, then the lingual, and, lastly, the sub-orbital nerve—the enemy, however, retreated to the ethmoidal, where the knife of the surgeon could not reach him.

"In such a case," says M. *Majendie*, "I pursue the pain, not with the bistoury, but with the galvanic current. Even should it fix itself upon the ethmoidal nerve, I should insert one needle into the nostril, and another into the orbit, along the upper part of its internal wall, at the place where the external nasal traverses it, thus attacking it both near its origin and its termination.—*Gazette Medicale*.

Remark.—We have no doubt that electro-acupuncture will relieve the suffering in many cases of neuralgia, which are unconnected with structural disease of any part; but it is more than probable that the relief will be only temporary, unless appropriate constitutional means are employed at the same time.—*Rev*.

M. BIOT ON THE DIAGNOSIS OF DIABETES MELLITUS BY THE OPTICAL APPEARANCES OF THE URINE.

M. *Biot*, the distinguished natural philosopher, informs us that, Dr. *Mendel* having enquired of him, if by the observation of the rotatory power the presence of sugar could be detected in the urine, he has performed numerous experiments with this view on the urine of patients labouring under diabetes mellitus. Chemistry enables us to obtain from such urine a substance, which is fermentable, and whose characters of solubility, of fusibility, and of crystalline appearance, are in

every respect quite identical with those of solidified sugar from the grape, and of that produced by the prolonged action of sulphuric acid on starch. Now this fermentable matter, so obtained, is sometimes sweet or saccharine to the taste, and at other times it is altogether insipid. Hence some authors, as M. *Bouchardat* in his excellent memoir in the *Revue Medicale* for June, 1839, have been inclined to conclude that there are two kinds of sugar in diabetic urine—one sapid, and the other insipid. It is, however, more probable that tastelessness of the fermentable extract is owing to the union of the saccharine substance with other ingredients of the urine, such as the lactate of urea, the chloride of sodium, and extractive matter: this opinion is confirmed by the results of optical examination. For the purification of the insipid product, by repeatedly washing it with alcohol, leaves as a residue a sapid sugar, which is quite analogous in appearance with the sugar of fecula, susceptible of fermentation like it, and which exercises a rotatory power of the same character.

"My first care," says M. *Biot*, "was to ascertain if healthy urine ever presented traces of rotatory power. The result of my observations has been that it does so never, or at least very rarely, and then accidentally and scarcely perceptibly. I long ago satisfied myself that urea, which enters so abundantly into the composition of healthy urine, exhibits no appreciable rotatory power. I had also found in diabetic sugar a rotatory power of the same kind (*de meme sens*) and of the same intensity as the sugar of starch—a fact which accords with the identity of ponderal composition, which chemistry attributes to them."

..... "I examined the urine of a diabetic patient, under the care of M. *Breschet*. He had been for some time subjected to a diet of animal food chiefly, and had derived so much benefit from it, that he was considered to be on the road to a recovery, although still affected with *diabetism*. His urine exhibited a power of considerable rotation, directed towards the right hand of the observer, consequently in the same direction as the solid sugar of diabetic urine obtained by evaporation. Its deviation, observed immediately with the naked eye, through a tube of 347^{mm}, 6 in length, was +10°, 6.*..... In a case under the care of M. *Rayer*, the rotatory power of the urine, observed in a tube of the same length, exhibited a deviation to the right hand of 18°, 5. This urine contained nearly twice as much saccharine matter as that of M. *Breschet's* patient. If this sugar might be considered as free, or as combined with substances which do not alter its rotatory power, the urine must have contained from 110 to 120 *grammes* in the *litre*—a proportion which does not exceed what M. *Bouchardat* has met with in extreme cases of the disease.

But to estimate in this way, with exactitude, the ponderable quantity of saccharine matter by the mere extent of the deviation observed through a liquid medium, it is necessary that the two conditions now specified should have been previously determined by the chemist. It is for this reason that, until such analytical examination has been made, I restrict myself at present to merely suggesting the optical diagnosis as a means of comparison."

M. *Biot* then mentions some other circumstances, which confirm the opinion that diabetic sugar is strictly identical with that obtained from fecula.

..... "M. *Rayer's* patient was seized with a pneumonia, while under treatment for the diabetes. The animal diet was, therefore, obliged to be suspended. The urine, under the influence of the inflammatory action, became of a deeper colour, and was found to contain much less sugar. Five days after the invasion of the inflammatory symptoms, and seven days after the suspension of animal food, the urine was found to exhibit no traces whatever of rotatory power: consequently all secretion of sugar had ceased.

* We give these figures as they stand in the French memoir, as we might commit an error in reducing them to an English standard.

How much more easy it would have been to have treated this case, had the poor fellow come to the hospital at the commencement of his disease, when the simple inspection of his urine might have proclaimed at once the danger of his situation!

In another case from the practice of M. Rayer, that of a child in whom there was a copious diuresis, accompanied with extreme thirst, &c. I examined the urine optically, but could not discover any sign of rotatory power. Now on evaporating it, we found that there was exceedingly little residue left, and that this was not fermentable. The optical and the chemical examination corresponded, therefore, in their results. It is, without doubt, easy in such a case to ascertain the nature of the urine by evaporating it and testing the residue; but it is still more easy to introduce some of the urine into a tube, and arrive at the same conclusion by simple inspection."

M. Biot suggests to physicians, that by following this plan, the optical examination of the animal fluids, they might ascertain whether the serum of the blood &c. in diabetes contains any free saccharine matter. He has already found that the serum of healthy fluid has a rotatory power directed to the left hand—in consequence of its containing albumen, which acts in this direction. If the serum contained any sugar, we may expect that its rotatory power should be considerably weakened, or perhaps altogether changed. A similar occurrence may be expected in the urine itself, when it has become albuminous. These are questions well deserving the immediate attention of the scientific physician.

M. Biot concludes his remarks with these words:—

"The optical characters of the urinary secretion will furnish an easy, sure, and exact means of diagnosis, to enable us to ascertain in a moment its diabetic condition. In this way, we may recognise the commencement of the disease from its earliest stage, detect at once its different peculiarities, and follow it through all its phases. It will then be easy to discover the immediate effects of regimen and diet, as well as of any medicinal agents that may be administered."—*Gazette Medicale*.

MICROSCOPIC OBSERVATIONS ON MILK.

M. Donné has recently communicated a memoir on this subject to the Royal Academy in Paris. A committee consisting of M. Moreau, professor of midwifery to the Faculty of Medicine, M. Baron, physician of the Foundling Hospital, and MM. Orfila, Velpéau, Blandin and Louis, was appointed to report upon it; and the following are the main conclusions of their report:—

1. The *colostrum* has microscopic characters which distinguish it from genuine milk: it may be recognised by *gravity* (*graniteux*) corpuscles very distinct from the globules of milk, and by a peculiar arrangement of these last-named globules attributable to the presence of a mucous matter which connects them together.
2. In the normal state, and in healthy nurses, the milk does not exhibit any traces of *colostrum*, from the tenth to the twenty-fifth day after delivery.
3. We find the elements of the *colostrum* in the milk of certain nurses at much more distant periods after delivery; and this character constitutes one kind of alteration of the milk, which renders it unwholesome to the infant beyond a certain age.
4. The microscope enables us to appreciate the nutritive richness of the milk by the number of the globules, which are always in proportion with the other constituents of this fluid, (the caseum, sugar).
5. All the globules of the milk are formed of fatty matter, as is shewn by their solubility in ether; they are not composed, as it has hitherto been generally alleged, in part of butter and in part of caseum.

6. The milk of women, as that of the cow, &c., restores the blue colour of reddened litmus paper; it is therefore not acid, as stated in most works on chemistry.

7. The milk of good healthy nurses always exhibits numerous globules unadherent to each other, distinct, and without admixture of foreign bodies. Although there are some of all diameters from the 500th to the 50th part of a millimetre, the greater number are of a medium size.

8. Whenever milk does not exhibit these characters, and when its globules are confused, agglomerated together by a mucous matter, and do not float about freely, and without adherence to each other on a plate of glass, or when they are mixed with foreign bodies (granular bodies or mucous globules,) we must regard it as more or less abnormal and unhealthy. We observe it so in nurses who have an engorgement or any local disease of the mammae, and in those whose general health is disturbed.

9. The presence of pus and of blood in milk is readily determined by microscopic examination, as well by the difference in aspect and organisation of the globules which enter into the constitution of these three liquids, as by the different effects produced upon them by ammonia and ether. The globules of milk resist the action of ammonia, while they are entirely soluble in ether: it is the very reverse with the globules of pus and of blood.—*Gazette Médicale*.

Addend.—We observe, in a recent number of the same journal, a note on the influence of different articles of food on the milk of cows and goats. Turnips, it is said, render the milk lighter and of more easy digestion than the common fodder, while beet-root makes it extremely rich and substantial. The convalescence of the *Count of Paris*, the infant grandson of *Louis Philippe*, is attributed to the milk of a cow fed on turnips having been substituted for that of his nurse, the latter having been found to be not sufficiently nutritious. "The success was immediate and complete, the young prince being restored to perfect health."
—(Rev.)

DIEFFENBACH ON THE CURE OF STAMMERING BY OPERATION, WITH REMARKS.

The distinguished surgeon of Berlin has addressed a lengthened letter to the Institute of France on the subject of curing impediments of speech by means of a surgical operation. We shall give an abstract of its contents before offering any remarks of our own.

M. *Dieffenbach* tells us that, after long consideration of the subject, the idea quite suddenly (*tout à coup*) came into his mind that "the change produced in the innervation of the muscles of the tongue, by dividing the muscular part of this organ, might probably effect a cure of stammering." What suggested the idea to him was the circumstance of a person who squinted with both eyes, and who happened to be also affected with stammering; coming to his consultation to have an operation performed on her eyes. He has subsequently observed that these two defects are often co-existent in the same person.

"As I believed that the cause of stammering was dynamic, and consisted in a spasmodic state of the air-passages, and more especially of the glottis, communicating itself to the muscles of the tongue, and of the face and neck, I inferred that, by interrupting the innervation to the muscles involved in this abnormal condition, we might succeed in modifying, or even completely suspending it. The obvious way of doing this, was to make a transverse section of the root of the tongue."

He has tried three different modes of operating :

1. The transverse horizontal section of the root of the tongue.
2. The transverse subcutaneous section of the root of the tongue, with the conservation of the mucous membrane.
3. The horizontal section of the root of the tongue, with excision of a triangular piece of its substance.

"I had anticipated much greater benefit from the last than from the other two methods of operating, because it at once produced a shortening of the tongue, and enabled the patient to move it up easily against the roof of his mouth—a movement which is always strongly inculcated by all those who profess to cure stammering. As, however, it was a more serious operation than the other two, I wished to give a fair trial to them also. The instruments required for these operations are several kinds of forceps, a hook provided with a handle, a long narrow curved bistoury, and several curved needles armed with ligatures."

The first operation performed by *Dieffenbach* was on the 26th Jan. of the present year. He adopted the third plan, that of excising a triangular portion of the root of the tongue. The patient, a boy 13 years of age, being seated on a chair and his head resting on the breast of an assistant, the tip of the tongue was laid hold of and drawn out with *Museux's* forceps, which were held by one assistant, while another with a blunt hook kept back the angle of the mouth. The operator then introduced the point of the knife, with its cutting edge directed upwards, into the left side or margin of the root of the tongue, and, having pushed it on through its substance to the point opposite to that where he had entered it, he then made a complete section from below upwards. Having then fixed the posterior edge of the wound with a strong suture, he seized with a forceps, provided with points, its anterior edge, and having thus compressed it laterally, he cut away a triangular piece of the entire thickness of the tongue. This done, he drew the posterior edge as far forward as he could, and by means of six strong points of suture he attached it to the anterior edge, carrying each thread deep into the substance of the tongue, so as to guard against subsequent hæmorrhage, which had been very considerable during the operation. We are told that, immediately afterwards, the boy was able to pronounce several words without at all stammering, (!) although the contortions of the face still continued. By the seventh day, the wound was completely healed : "there was not the slightest stammering, nor any convulsive movement of the face or lips during speaking : the pronunciation was altogether pure, sonorous, and rapid ; and, even with strangers or when surprised, there was no impediment or interruption. Even the most difficult words he could pronounce as quickly as another person. Baron *Humboldt* examined him on the tenth day after the operation, and satisfied himself of the perfectness of the cure."

The second case was treated in the same manner as the preceding one, and with similar success. The youth, 16 years old, had stammered from the sixth year of his age, after an attack of pneumonia : most of his brothers and sisters were affected with the same impediment. Eight days after the operation, not only was the wound perfectly healed, but the tendency to stammering was entirely removed.

Equal success attended the performance of this operation in twelve other cases !

M. Dieffenbach has performed the operation of—

Simply dividing horizontally the Root of the Tongue in four cases ; in one it failed,* and in the other three the incisions had not quite healed at the date of

* It is worthy of notice that in this case, in which *Dieffenbach* himself admits that the operation failed, the stammering entirely vanished immediately after the operation : it returned however, as bad as ever, in the course of two or three days. Is not this remark applicable to not a few of the cases which have been trumpeted forth in this country as cures ?—*Rev.*

his report, although the stammering had already entirely ceased in all of them. The operation consists in first securing the tongue, then making a transverse incision across its basis, and lastly bringing the edges of the wound together by several stitches.

The *third* operation, proposed by *Dieffenbach*, consists in

The subcutaneous transverse Section of the Root of the Tongue, leaving its mucous membrane undivided. He reasoned thus on the advantages and disadvantages of this mode of operating, before proceeding to adopt it in a particular case, where the tongue seemed to be shorter than usual: "On the one hand it seemed to me advantageous, in so far as that the posterior part of the tongue could not be well drawn forward, which necessarily rendered the application of any sutures more difficult; on the other hand, it seemed to me doubtful, in consequence of the difficulty of arresting the hæmorrhage, since it was scarcely possible to employ compression, and there was, therefore, the risk of a quantity of blood accumulating in the subcutaneous (or rather submucous) wound of the muscles of the tongue. Lastly, it appeared to me less certain of success, because there was not necessarily any shortening of the tongue produced by it, a condition which I deemed indispensable to effect a cure of stammering." The success of my first trial has, however, greatly exceeded by expectations."

The operation is entirely the same as the preceding one, with the exception of the mucous membrane of the tongue being not divided: the narrow falciform bistoury is plunged into the substance of the tongue at one side and carried across to the opposite side, dividing in its *trajet* the entire thickness of the muscles; it is then withdrawn, without dividing the mucous membrane, as in the subcutaneous operations practised so extensively by *M. Guérin*.

"The blood streamed out from both lateral wounds, as if it came from a large arterial trunk, and the tongue became much swollen by the blood which accumulated in the wound. To contract the width of this, I passed a strong suture from behind forwards, through the substance of the tongue, and thus closed the two lateral wounds or punctures made by the bistoury. The deglutition was considerably impeded for several days afterwards. The suture was removed on the fourth day, the union being complete through the entire depth of the wound, and on the eighth day the patient left his room. He no longer stammers in his speech, except with certain words difficult of pronunciation. This mode of operating," adds *M. D.*, "presents more difficulty than the other two."

M. Dieffenbach closes his memoir with some practical remarks on wounds of the tongue in general. He observes that they almost always exhibit a marked tendency to unite very rapidly, provided their edges be kept together by means of sutures. To effect this, the sutures must be strong, sufficiently numerous, and inserted deep, so that no empty un-united space exists at the bottom of the wound. Although the wound is usually united by the third or fourth day, it is well not to remove the stitches for a day or two longer.

The chief danger of wounds of the tongue is the risk of serious hæmorrhage; this is another reason for the employment of strong deep sutures, at short distances from each other.

M. D. tells us that he has tried, in several instances, the operation of dividing the *frænum lingue* for the relief of stammering; but that it is entirely useless. His concluding remarks are so amusingly caustic, and withal so very just, that we must not deprive our readers of the pleasure of perusing them.

"At a time when it is so fashionable to modify every operation, however simple and good it is acknowledged to be, surgeons will have an ample field to propose modifications of the three methods which I have described above, and, also, to invent new instruments. They will, no doubt, be making incisions crucially, transversely, above, and below the tongue; they will be using caustics of various sorts; they will be employing curved bistouries and scissors of a new fashion,

and, also, other hooks, and other kinds of forceps; even to the very handles of the instruments, there will be some change or another introduced, for the purpose of permitting the light to fall better upon the cavity of the mouth. This new operation furnishes to the surgical antiquarian an occasion to devise new names; to them I leave the care of baptising it with a Greek appellation."—*Gazette Médicale*, 13 Mars, 1841.

Remarks.—It does not, we think, require the eye of a prophet to foresee that the operation—for the three methods proposed are only modifications of one—recommended by *Dieffenbach*, can scarcely ever be adopted by the scientific surgeon for the cure of stammering. Independently of the pain and difficulty attending its performance, and the risk of the serious hæmorrhage which may be induced, it is surely based on a merely conjectural, if not upon an erroneous, foundation. For, what reason is there to imagine that stammering depends on a shortening of the tongue? If such were its cause, how are we to account for the speedy cures which are every day effected by mere instruction, without any surgical operation being performed? And how shall we explain the immediate effects of surprise in aggravating the infirmity and of quietude in allaying it? That stammering is in most cases a purely spasmodic complaint, arising from some want in the normal equilibrium and co-operation of the muscles of speech, cannot, we think, for a moment be doubted; and that its cure is to be based upon the proper vocalisation of the voice, seems to be established by the circumstance of stammerers being usually able to pronounce the words in singing with perfect ease, and without any impediment. What then should induce us to fly to a surgical operation, and to the cutting and carving away of the tongue, or the tonsils and the uvula, or the frænum and base of the tongue, to relieve a defect which is certainly purely functional? And here it may be necessary to caution our readers not to allow their minds to be too much influenced by the reports of *immediate* success after the operations either of *Dieffenbach*, or of MM. *Amussat* and *Lucas*, whose plan consists in dividing the frænum linguæ and the hyo-glossi muscles, or of Mr. *Yearsley*, who has been very busy excising the uvula and portions of the tonsils of every stammerer that comes within his reach.

That any operation or plan of treatment, which causes a certain amount of pain, and will therefore have the effect of throwing the muscles of the throat and mouth into new contractions, may be followed by some relief to the stammering, we are not at all surprised: but we much doubt that the relief will almost ever be permanent.* As well might we propose to remove the convulsive movements of chorea, or the paralytic affections of hysteria, by surgical operations on the affected members; the cases appear to us nearly parallel.

In conclusion, we venture to predict that ere another quarter or two have passed, we shall hear very little of curing stammering either by cutting the tongue either above or below, or by excision of the uvula and tonsils.—*Rev.*

FATAL WOUND OF THE VERTEBRAL ARTERY.

One of the porters of the prison at Limoges was stabbed on the right side of the neck, at about an inch below, and a little in front of, the mastoid process. The

* The labours of the medical critic would be much lessened, if the foolish practice, more common we confess on the continent than in this country, of reporting cases of surgical operations almost immediately after their performance, and often before their ultimate results can be known, was discontinued: it is only worthy of an advertising quack.

assassin had struck him from behind, and the direction of the wound appeared to be transversely from without inwards. The hæmorrhage was frightful, and was evidently arterial. As the temporal and facial arteries on the wounded side still continued to pulsate, it was inferred that it was not the external carotid that had been divided. Was it the vertebral? or was it the internal carotid?

M. *Voisin*, deeming that it was the latter vessel, proposed to tie the common carotid, and immediately performed the operation. But the hæmorrhage from the wound continued as profuse as ever, and could only be checked by firm compression somewhat above the wound. At length it ceased; and on the sixth day after the accident, the wound was almost completely cicatrised. Three days subsequently, after walking about for a minute or two, a slight hæmorrhage returned; but this was quickly arrested by repeating the compression as before. On the following week, however, again it broke out; and, on removing the apparatus, the skin was found to be somewhat gangrenous, where the firm pressure had been made. Although the bleeding did not return, M. *Voisin* proposed to perform a second operation with the view of securing the upper end of the vessel that had been wounded. On making an incision through the integuments, a frightful stream of blood poured forth. This could not be stopped by compression either above or below the seat of the wound; but it was checked by keeping up firm pressure along the course of the occipital artery, behind the mastoid process. M. *Voisin*, supposing therefore that it was this vessel that had been injured, immediately set himself to tie it at its origin. The sterno-mastoid muscle was therefore divided at its upper insertion and the digastric was exposed, when the hæmorrhage returned with redoubled violence, and could be only arrested by pressure with the fingers at the bottom of the wound. As it was utterly hopeless to attempt placing a ligature, all that was done was to fill the wound with a compress and secure it in its place with a bandage. From this time to the period of his death, which occurred two days afterwards, the patient complained of pain and sense of powerlessness in his right arm.

Dissection..... "The vertebral artery was found to have been almost completely divided at the point of its exit from the third cervical vertebra, where it forms an arch to reach the aperture in the transverse process of the second vertebra.".....

Remarks.—The error in diagnosis of M. *Voisin*, as to the vessel that was wounded in the preceding case, is quite excusable; but certainly we must confess that in our opinion the second operation was quite unnecessary, and decidedly hastened the fatal event. To attempt ever to tie the vertebral artery must surely be unnecessary; the only thing that can be done under such circumstances, is to trust to compression, maintained rather by the hand of assistants than by any bandages applied round the neck and head.—*Gazette Medicale*.

ON THE TREATMENT OF RECTO-VAGINAL FISTULÆ.

M. *Petrequin*, the chief surgeon of the Hôtel Dieu at Lyons, whose name is not unknown to our readers, has published at great length a case of that most distressing and often intractable accident, rupture of the recto-vaginal septum, successfully treated by operation. He justly remarks, that it is to M. *Roux* that surgery is indebted for the most valuable suggestions and precepts on this subject. It was he who first substituted the *quilled* for the *interrupted* and the twisted sutures in the approximation of the edges of the wound, and it is to this important modification that the success of his operations is mainly attributable. Two years ago he had performed and adopted this practice in eleven cases; in six of these the patients were cured by the first operation; in two it required to be re-

peated a second time; two patients died; and in the remaining case the wound gave way on the 14th day after the operation, during the efforts of defecation. No other mode of operating presents so satisfactory a result—8 cures in 11 cases.

The following is an abridged report of M. *Petrequin's* case.

A woman, 28 years of age, had a protracted and severe labour with her first child; when the child was expelled, the perineum and recto-vaginal septum were found to be lacerated. Eight months after this date, she was admitted into the Hôtel Dieu at Lyons, under the care of M. *Petrequin*. The entire extent of the perineum was lacerated, and the laceration extended into the rectum for 14 or 15 lines in depth; the constrictor muscle of the vagina and the two sphincters of the anus, with the exception of a few fibres of the upper one, were divided; the double ano-vulvar orifice was confounded in one large opening, and constituted a veritable cloaca, into which the excretions of the alimentary, the urinary, and the genital organs were received. The vagina and the os tincæ were the seat of minute ulcerations; and the general health had suffered considerably. The patient was therefore treated for some time with injections of a weak solution of the chloride of lime; and the os tincæ was occasionally touched with alum. After some time the general as well as the local health became much improved, and M. P. proceeded to the operation. The edges of the fissure being very finely pared, partly with the bistoury and partly with scissors, he inserted three curved needles, each armed with a double stout thread, through the two sides of the wound, taking good care that they penetrated to its deepest part. The ends of the ligatures were subsequently secured over two pieces of caoutchouc bougie placed along each side of the fissure.

As the lips of a wound always gape somewhat when a *quilled* suture is used, M. P. took the precaution of passing two stitches of the *interrupted* suture, so as to bring them in closer approximation.

The bowels having been kept well open for several days before the operation, opium, in the form of extract and syrup, was given afterwards to confine them, and the patient was put upon a very low regimen in order to prevent the necessity of defecation for several days. A catheter was also left in the bladder, so that the patient could relieve herself, when necessary, by merely withdrawing the plug. The vagina was freed from any purulent or other discharge, by means of mild emollient injections, morning and evening. On the third day, the patient had a liquid stool without any prejudice to the sutures. There was no evacuation of the bowels again until the eighth day, and then without much effort: the edges of the cicatrix at the anus were slightly disunited in consequence. On the following day the stitches and the pieces of bougie were removed, the cicatrization of the anterior three-fourths of the wound, at least, being by this time nearly complete: the patient began to take vermicelli soup, and the dose of the syrup of poppies was reduced to 16 *grammes*. On the eleventh day, there were two stools; and again there was a very slight laceration of the cicatrix near the anus; but the union in the perineum seemed to be complete.* On the eighteenth day, a superficial ulceration made its appearance in the perineum: by touching it however with a portion of alum it disappeared in the course of two or three days.

As remarked by M. *Roux*, there remained in all his cases a small aperture of communication between the rectum and the vagina for a considerable time after

* M. *Roux* has remarked on the tediousness of the healing of the fissure near to the anus:—"In all the cases, the edges of the division next the anus were disunited or rather separated, although ultimately they closed. At this point the wound was slightly gaping, and looked like that which is caused by the operation for fistula ani. But this fissure has in every case eventually disappeared, and the anus has recovered its normal condition."

the perineum had completely united. M. *Petrequin* had for some days hoped that he had been more fortunate, and that the recto-vaginal septum had perfectly cicatrised, as no portion of a fluid injected into the vagina passed into the rectum. But this hope proved in a few days to be deceptive. With the exception of this minute aperture between the two passages, the whole extent of the fissure was completely cicatrised, when the patient left the hospital on the 15th of August, 35 days after the operation. Unfortunately the poor creature caught cold when she returned home, and was seized with fever; she was brought back to the hospital, a fortnight after her leaving it, in a dying state. On dissection, it was found that the circumference of the anus had been attacked with ulceration, which had been extending deeper and deeper in, so as to affect the sphincter muscle and give rise to two small fistulae. The perineum however remained firm and perfectly united; and the recto-vaginal septum was closed, with the exception of one point, where an oval aperture, which communicated with the two passages, existed: its edges were hard and resisting. Thus the large lacerated opening, which originally existed, had been reduced to a small fistulous aperture; and we have every reason to believe, from the experience of M. *Roux*, that this would have gradually closed.

In closing the report of this case, it is impossible not to admit the great superiority of the *quilled* over every other kind of suture in the treatment of recto-vaginal fistulae. The introduction of this great surgical improvement we owe entirely to the sagacity of M. *Roux*.—*Gazette Medicale*.

RESULTS OF 643 CASES OF LITHOTOMY IN NAPLES.

These 643 cases occurred during the eight years from 1821 to 1828, and during the year 1839. Of the entire number 625 were in males, and 18 in females; 321 were in children, 262 in adults, and 60 in old people. (The exact periods of life are not stated.) The operation, which seems to have been the lateral one on all occasions, proved successful in 541 cases, and was followed by fatal consequences in 100 cases. This is very nearly the average rate of success of lithotomy in the practice of the most distinguished operators of recent times.—*Gazette Medicale*, No. 52.

TREATMENT OF CIRCOCELE BY OPERATION.

M. *Jules Roux*, one of the naval surgeons of the arsenal at Toulon, informs us that he has succeeded in effecting a cure in several cases of this unmanageable complaint by adopting the operation recommended by M. *Reynaud*, the *chef* of the surgical staff there, to effect the obliteration of the varicose vessels. The report of the following case will enable our readers to understand the nature of this operation.

"A sailor on board the *Montebello* ship of the line, aged 27 years, applied to me for relief from a large circocele, which had long given him great inconvenience. He stated that from his infancy he had been affected with a varicose dilatation, not only of the spermatic veins on the left side, but also of the veins of the left leg, extending upwards along the thigh to the groin.

The spermatic veins form around the testicle, which is seemingly quite healthy, numerous nodose plexuses, of which the *ensemble* forms a tumor as large as the closed fist. The vas deferens is easily distinguished and separated from the venous mass which adjoins it. When the patient is at rest, and the atmosphere is dry, the tumor diminishes considerably, and gives him but little annoyance;

but when he stands up or moves about, especially if the weather be damp and relaxing, the veins become much enlarged, and the scrotum and cord are elongated."

The following operation M. *Roux* performed on the 15th of August.

Separating the vas deferens from the bunch of varicose veins, and keeping it apart with the thumb and forefinger of his left hand, he took a large curved needle armed with a double waxed ligature, and inserted it through the integuments of the scrotum, carrying it round the cord, and making it come out at the opposite point, but leaving the threads in. A circular compress of lint was placed between the threads and the skin of the cord, so that the compression which was made by tying them was more even and uniform. The pain was considerable; but it gradually subsided within the course of an hour, and only returned when the patient coughed or sneezed. Next day, the ligature was undone, and re-tied rather more firmly; this was repeated on the 17th, 20th, 22nd, 24th, 26th, 28th, and 29th of August, and again on the 1st of September, as the soft parts gave way under the constriction of the thread and cicatrized over it. Each time it caused considerable pain, which lasted from 10 to 30 minutes. On the third day after the operation, the edges of the little wounds became inflamed, and the inflammation gradually affected the entire scrotum and also the testicle; but no constitutional fever was induced. Emollient laudanised poultices were applied. On the second of September, the nineteenth day after the operation, the soft parts within the ligature being nearly divided, the narrow pedicle was cut across with a narrow bistoury introduced along the course of the ligature. Six days subsequently the patient left the hospital quite cured, and resumed his duties on board ship.

Two months afterwards he was examined. The testicle was of its ordinary dimensions and consistence; below the whitish linear cicatrix, which looked like a circular furrow, five or six cords, smaller and softer than the vas deferens, were distinctly felt: these were the impermeable spermatic veins. (Query, how is the testicle nourished, if the spermatic cord, with the exception only of the vas deferens, be divided across with a ligature, as in the preceding operation?)

M. *Roux*, it seems, has performed the same operation with perfect success in several other cases of circocoele: they are recorded in two memoirs, one in the *Gazette Medicale* for 1837, No. 52, and the other in the *Journal des Connoissances Medicales* for February 1839. He deems it altogether preferable to the operations recommended by M. M. *Velpeau* and *Breschet*: the merit of it belongs to his *chef*, M. *Reynaud*, who in his opinion has "perfectionné ce point de pathologie chirurgicale."—*Gazette Medicale*.

RESULTS OF AMPUTATIONS IN THE FRENCH ARMY AT ALGIERS.

*Statistical Report of the Amputations performed in the Hospitals as well as in the Camps, during the Years 1837-8 and 9.**

These amputations amounted to 63; viz.

At the shoulder-joint	-	-	-	-	6
At the elbow	-	-	-	-	2
At the wrist	-	-	-	-	6
At the knee	-	-	-	-	1
Of the foot, partial	-	-	-	-	1

* The operations performed in the campaign to Constantine in 1837 are not included in this report. The minor amputations also of fingers and toes are not given.

At the metatarsal joint	-	-	-	1
Of the thigh	-	-	-	16
Of the leg	-	-	-	7
Of the arm	-	-	-	15
Of the forearm	-	-	-	8

Of these 63 cases, 17 proved fatal; thus exhibiting a mortality of one in between three and four of all. It must however be mentioned, that of the 17 fatal cases, three of the patients were operated on under circumstances which held out very little hope of recovery; one received a fracture of the cranium as well as the injury of the limb which required amputation, one died of hæmorrhage during his transport from Tunis to the coast, and one died from the effects of an overfeed when he was going on most satisfactorily—so that the mortality attributable to the operation cannot perhaps be estimated higher than at 11 or 12 out of the 63 cases.*

(During the campaign of Constantine, when the army was exposed to the greatest hardships and to the most trying severity of weather, the mortality after amputations was on some occasions appallingly high. Thus of ten cases operated upon at Medeah in July 1837, one only proved successful; and of 62 at Blidah 39 proved fatal. The mortality was in proportion to the magnitude of the operation: thus of 30 amputations of the thigh, four only proved successful.)

Of the 63 cases, the operation was performed primarily or immediately after the injury in 44, and secondarily or consecutively in 19. Among the former, there were 32 cures and 12 deaths; and among the latter there were 14 cures and 5 deaths. It would therefore seem that quite as great success attended secondary as primary amputations. This however does not at all contradict that precept of our best military surgeons, at the head of whom we may justly place Baron Larrey, that immediate amputation should generally be performed after severe gun-shot wounds of the extremities: much anxiety and great inconvenience and trouble will thereby be spared to the operator. Dr. Guyon, the author of these remarks, after citing a number of instances in which success attended his secondary or consecutive amputations, says:—"In my opinion, the secondary operation presents at least as many chances of success as the primary, if performed on parts more or less distant from the trunk, and many more chances if performed on parts nearer the trunk of the body, such as the thigh or the hip-joint. We know that as yet there is not a single successful instance of primary amputation at this joint. In the case recorded by Guthrie, the operation was not performed till 15 days after the receipt of the wound. A certain degree of constitutional depression is very obviously a favorable condition for the performance of so formidable an operation as removal of the thigh at the hip-joint. It has been performed, but unsuccessfully, three times in the French army at Algiers."—*Gazette Medicale*.

TREATMENT OF ANCHYLOSIS BY RAPID EXTENSION.

Our readers are probably aware that a surgeon of the name of *Lowerier* was trying, in some of the hospitals in Paris, the practice of rapid extension of ankylosed joints by means of a powerful mechanical apparatus. We condemned the practice at once, as utterly inconsistent with all the principles of rational sur-

* Even at this estimate it would seem that the average mortality after amputations, at least in the military practice of the French surgeons in Africa, is nearly the same as that after lithotomy, as stated in the preceding article.

gery, and as attended with the most disastrous results to the unhappy victims who were experimented on.

As usual, the subject was communicated to the Royal Academy of Medicine, and became the theme of discussion among its learned members. An official report from the commission appointed to examine the practice has recently been published. The following *résumé* will enable our readers to appreciate its contents.

M. *Berard* (the reporter) said, that the operation of forcible extension of ankylosed joints had been performed in 22 cases: in three only had any troublesome consequences followed; in all the other cases the operation had no dangerous consequences (*resultat facheux*.) The greater number of the patients experienced, at the time of the extension, excessive sufferings; and in not a single case had the affected joint recovered a perfect freedom of movement. In some cases, a certain degree of luxation of the tibia on the posterior face of the lower end of the femur was remarked: this was partly owing to the resistance opposed by the patella, which had become agglutinated to the front of the condyles, and to the atrophy of the articular extremity of the tibia. As to the three cases in which the operation produced dangerous or fatal results, we are given the following particulars.

In the first unsuccessful case, which was the twelfth on the list, the ankylosis of the knee was complete, and the flexion of the joint so great that the heel nearly touched the buttock. The application of the extending apparatus was followed by a considerable laceration of the integuments, and a luxation of the leg on the posterior part of the femur, and subsequently by a profuse discharge of purulent matter which proved fatal three weeks after the operation. On dissection, the knee-joint was found full of pus; the anterior crucial ligaments were in a softened state; one of the posterior ligaments was torn across, and to its torn surface a portion of bone which had been detached from one of the condyles still adhered: several of the muscles also were lacerated.

In the second case, the patient experienced dreadful suffering at the time of the operation, and remained in a state of insensibility for some time afterwards. On the following day, an appearance of gangrene, attributable most probably to a rupture of the popliteal artery, shewed itself. Fortunately the gangrene became limited; and ultimately the patient recovered.

The third case occurred in a young girl, whose ankylosed limb was bent to nearly a right angle. The *redressement* being not complete, M. *Louvier* applied a strong splint to the front of the joint, by means of which he proposed to complete the extension and prevent the shortening of the limb. On the following day however an eschar formed on the front of the knee, and the femur was found to have sustained a comminuted fracture: the patient died six weeks afterwards.

In another case, in which however the *redressement* was not followed by any accident, the patient died of a disease quite independent of the joint affection; and it was then found, on dissection, that the articular surface of the tibia was luxated on the posterior part of the femur, and also that the inner condyle had been fractured.

Considering therefore, says M. *Berard*, the comparatively small number of accidents after an operation apparently so frightful as the forcible extension of an ankylosed joint, the judgment which we should pass on the practice of M. *Louvier* would not be so unfavourable, if its dangers were balanced by real advantages. But unfortunately it is not so; the limb remains almost immoveable, and has very little more freedom than one made of wood. On the whole we are inclined to draw the following conclusions.

1. That the application of M. *Louvier's* apparatus is usually followed by an instantaneous rectification (*redressement*) of the ankylosed limb;
2. That this rectification is not ordinarily followed by any dangerous accident, either immediate or consecutive;

3. That the accidents however, when they do occur, are almost always frightful and generally prove fatal;

4. That none of the patients treated by forcible extension has recovered entirely a freedom of movement in the ankylosed joint.

"We should therefore reply to the minister that the apparatus of *M. Louvrier*, however ingenious it may be, is of extremely dangerous application, for it will be always impossible to determine beforehand the nature of the existing ankylosis or to foresee the conditions which might offer some chances of success in employing it."

M. Larrey expressed his concurrence in the conclusions of the report.

M. Gerdy condemned the apparatus of *M. Louvrier* altogether, and denominated his practice as worthy of a day-labourer or workman, rather than of a surgeon. The operation was violent, coarse, and unguided by any safe rules. "As a general maxim, we should never perform, on a human being, any operation, the consequences of which are more serious than the disease itself. In the present day surgeons are too apt to forget or despise this fundamental principle of surgery as well as of humanity; and too often we hear of rash experiments being performed in our hospitals, and in the presence too of students who have come to the metropolis to be educated, and who will hereafter carry into the provinces many a deplorable practice."

"I repeat," said *M. Gerdy*, "the surgery of the present times sins most by an excess of rashness; it resorts to operations at a mere venture, and without their being based on any sound and established principles; it operates everywhere and on all occasions. In this manner we may no doubt succeed in making a trade of our operations, (*à faire de l'industrie, des opérations mercantiles*); but most assuredly we shall make no progress in our art, and science will inevitably be lost sight of in mere random speculation."

M. Velpeau adopted the conclusions of the report. He regarded the application of the proposed apparatus as highly dangerous, but nevertheless he did not entertain the same fears as most surgeons of the sudden rectification of the joint in ankylosis. The practice is not so dangerous as is usually imagined: we only want a *convenable* method of effecting it. He acknowledged that he had given *M. Louvrier* opportunities of trying his practice among his patients, and he did not at all regret that he had done so, as there was no other mode of ascertaining the results of new contrivances but by experiment.

THE PROGRESS OF MEDICINE IN FRANCE DURING 1840, (continued.)

In our last number, (p. 530,) we gave the commencement of an abridged report of several papers by *M. Guérin*, the editor of the *Gazette Médicale*, on the progress of medical and surgical knowledge in France during the preceding year. We stated that they present but a superficial view of so interesting a subject; but that, however imperfect they are, they bring together a number of facts and statements, which may enable the English reader to form some idea of what is going on in continental medicine. We proceed therefore in our selections.

Pathological physiology, in the department of auscultation, has received some interesting contributions from *M.M. Piorry, Beau, and Raciborski*. The first of these gentlemen has successfully applied plessimetry to determine the dimensions of the aorta, and to complete the diagnosis, hitherto imperfect, in numerous cases of dilatation of this vessel. *M. Beau* has contributed several papers in support of his peculiar views, that the various respiratory sounds of health, and also their modifications in disease, are merely the resonances or echos of the sounds generated in the glottis backwards along the bronchial tree. *Dr. Raciborski*

borski has endeavoured to simplify the history of the moist *râles*, of which there are so many subdivisions described by *Laennec* and other writers. After shewing how much the characters of a moist *râle* are influenced by the age, the condition of the patient at the moment of examination, &c. he proposes to recognise only one kind or species of it, the *bullar râle*, as the primitive or essential form. There is nothing analogous to the characters of this sound in the state of health; hence, whenever it is heard, we may be assured that a morbid condition is present in some part of the respiratory apparatus. Its numerous varieties depend upon the larger or smaller size of the bullæ, on the more or less viscid state of the mucous secretion, on the consequent facility of expectoration, &c.

Pathogeny has been indebted to *M. Langenbeck* for a series of experiments which tend to prove the transmissibility of cancer from the human being to the lower animals. When cancerous matter had been injected into the veins of dogs, cancerous tubercles were found, on dissection some time afterwards, developed in the lungs. *MM. Rayer, Leblanc* and *Berard* have on several occasions repeated the inoculation of animals with glanderous matter taken from the human subject.

M. Triberti has pointed out the influence of light on the spasmodic phenomena of hydrophobia; it would seem, according to his statements, that hydrophobic patients can sometimes swallow in the dark with comparative facility. *M. Deszelmeris* has published a luminous memoir on the diseases of the epiglottis—and *M. Barthes, Roger*, &c. have shewn, from an extensive series of observations, that typhoid fever, hitherto regarded as of rare occurrence in children, is quite as frequent at this age as among adults. We must not omit to allude to the series of most valuable researches of *MM. Andral* and *Gavarret* on the changes of the blood in many of the most frequent diseases to which the body is liable.

In surgical pathology, the labours of *M. Guerin*, in illustrating the hitherto obscure subject of deformities, deserve especial notice. He has shewn that they are almost all attributable to a spasmodic retraction, which has in course of time become permanent, of certain muscles or sets of muscles, and that by the subcutaneous division of the retracted muscles—an operation at once simple and entirely void of danger—the deformity may be generally removed. In the extraordinary case, in which *M. Guerin* divided no fewer than 42 muscles, tendons, and ligaments in the same patient at one sitting for the cure of various existing deformities, the operation was followed by no unpleasant symptoms, and by a very marked *redressement* of every part that was contracted.

M. Bonnet has drawn the attention of surgeons, in an especial manner, to the positions of the limbs in cases of diseased joints: he has shewn that, by injecting fluids into the articular cavities in the dead subject, we cause the limbs to assume those directions in which we had ascertained anatomically and experimentally that there was an increase or enlargement of the intra-articular spaces. From this fact he infers that the positions of the limbs, in diseases of the joints, are the result of effusions, which render such positions necessary to lodge the excess of the effused fluid. *M. Nichet* has continued his beautiful researches on diseases of the spine: he shews that the destruction of the inter-vertebral cartilages often commences in the centre of these disks, without however exhibiting any traces of tuberculous degeneration, and he assimilates the gradual destruction of these cartilages to that of the cartilages of diarthrodial joints. *M. Malgaigne* has examined every question connected with the important subject of hernia at great length and with much ability; and *M. Velpeau* has pointed out a new variety of inguinal hernia, in which the protruded gut has forced a passage through the abdominal wall between the tendon of the rectus muscle and the umbilical artery, and thence penetrated into the inguinal canal, leaving intact the external ring, and raising the aponeurosis of the great oblique muscle. This surgeon has also been trying some experiments with the view of effecting a radical cure of reducible hernia. His plan consists in scarifying the inner surface of the herniary sac,

according to the *subcutaneous* method proposed, and so extensively adopted, by M. *Guerin* in performing the section of contracted muscles. M. *Velpeau*, it would seem, has not obtained complete success; but a M. *Sotteau* has been fortunate in one or two instances in which he followed a similar plan. And M. *Maisonneuve* has published an excellent paper on fractures of the fibula, and has proved that there are several other varieties of it besides those which *Dupuytren* and most surgeons have admitted.

Need we make any allusion to the new operation for the cure of squinting? Every journal, French and foreign, has teemed with suggestions and reports of cases. The operation is certainly an important addition to surgery; but there needs a good deal of discrimination in the selection of the cases in which it should be performed. Several surgeons have adopted the suggestion of M. *Guerin* to divide, according to the subcutaneous method, one or more of the muscles around old dislocated joints, in order to facilitate their reduction; and success in several instances has been thus obtained.

MM. *Dieffenbach* and *Veinhold* have reported two cases in which they effected the reduction of an old dislocation of the humerus by dividing (subcutaneously) the great pectoral muscle. M. *Guerin* has told us that he has made the subcutaneous section of almost every muscle of the body; and that, as already stated, in one patient alone he divided no fewer than 42 muscles, tendons, or ligaments at one operation, for various kinds of deformity, with the most satisfactory results.

Medical Pathology and Therapeutics.

M. *Nonat* has published some interesting observations on the relation that exists between intermittent fever and enlargement of the spleen—a relation to which M. *Piorry* had previously called the attention of physicians—and has pointed out a useful indication for the exhibition of quinine in such cases. He suggests that the amount and frequency of the doses should be proportioned to the degree and duration of the splenic enlargement, and that the use of the medicine should be continued until the viscus returns to its normal condition.

M. *Levy* also has examined this question, and has very ably shewn that intermittent fevers constitute one of the most complex and often obscure class of diseases, giving rise to a multitude of morbid states which are very diverse in their phenomena and effects, but which are all attributable to the same cause, and should all be treated in the same manner. Applying this truly philosophical idea to the development of ascites after agues, he has shewn that this disease is only a consequence, and will, like enlargements of the spleen and other analogous effects of the fever, generally yield to the judicious exhibition of the quinine.

As novel therapeutic suggestions, or as improved and better defined applications of former methods of treatment, we may allude to—1. The experiments and observations of Dr. *Hudson* on the employment of minute doses of the nitrate of silver in some complaints of the digestive mucous membrane; 2, the employment, by M. *Sicherer*, of full doses of calomel in typhus fever; 3, the use of emetics, repeated *coup sur coup*, in the treatment of croup by M. *Jourdain*; 4, of ammonia in diabetes; 5, of sulphur in angina pectoris, &c. &c. As a happy specimen of recurrence to genuine therapeutic analysis, we may cite the memoir of M. *Mascarel* on the treatment of pneumonia in old people by bleeding and large doses of the tartrate of antimony.

In toxicology some very valuable researches have been made during the preceding year. We may first cite the experiments of M. *Blacke* on the action of poisons: they tend chiefly to shew that poisonous substances act only by their being brought in contact with the nervous system, after passing through the circulation. The most important results of his inquiries may be stated to be:—1. The time required for the passage of a poisonous substance through the walls

of the capillaries is inappreciable. 2. The interval of time, that elapses between the absorption of a poison by the capillaries and its diffusion throughout the system, cannot exceed nine seconds. 3. There is, however, always a more considerable interval than this between the introduction of a poison into the capillaries or the veins, and the development of the first symptoms; and 4. A poison is found to act proportionately more quickly, the nearer the point at which it is introduced into the circulating system is to the brain.

M. *Orfila* has continued his most interesting researches on different poisonous substances, more especially the salts of arsenic, copper, and antimony, and has beautifully shewn how they penetrate, and may be recovered by chemical analysis from, almost every tissue of the body. Independently of the numerous useful results which this indefatigable experimenter has obtained, our attention should be awake to the comprehensive character of the views which have directed all his labours. The pursuit of the poisonous substance, beyond the theatre to which science had hitherto limited its enquiries, opens a new era in toxicology; and his multiplied experiments, distinguished as they have been not less by their rigorous exactitude than by their beautiful delicacy, have led him to an order of researches, hitherto entirely novel, on the existence of various heterogeneous substances in the tissues of the body in a state of health.

The third and last article in the *Gazette Medicale*, on the leading medical events of the year 1840, is devoted to a brief review of the leading new works which have been published during its course. The *Essays on General Zoology*, by *Isodore St. Hilaire*, the elaborate treatise on General Physiology by *Burdach*, and translated into French by that prince of *traducteurs*, M. *Jourdan* of Paris, the *Comparative Anatomy of the Nervous System* in its relations with the intellect by M. *Lewret*, and the treatise on Physiology by Professor *Duges* of Montpelier, are mentioned with particular praise.

Among the most valuable publications on pathology, the new edition of M. *Chomel's* treatise is deservedly named, as replete with the soundest views and the most correct principles of practice. Then, too, the new edition of *Andral's Clinique Medicale* is, as might be expected, alluded to in the most flattering terms: it is styled to be "the work, the inspiration, the reflection of the epoch when it was composed, and under this aspect to hold a prominent place in the history of our last medical revolution; it is a work of transition, that is to say, it partakes at the same time of the characters of past times and of the spirit of the present day." The *Philosophical treatise of Practical Medicine* by M. *Gen-drie* (reviewed in the *Medico-Chirurgical Review* for Oct. 1840) is noticed with some degree of favour. M. *Louis* has brought out a new edition of his treatise on typhoid fever, and has collected fresh proofs of the soundness of his conclusions, that the lesion of the elliptical groupes of the intestinal mucous glands is an invariable attendant of this disease. M. *Forget*, one of the professors of the school at Strasburg, in a work which he has published on follicular enteritis, thus alludes to M. *Louis's* researches:—"Preceding authors had observed the lesion in question; MM. *Prost* and *Louis* have counted it, and having met with no exception, they have erected, what in the opinion of their predecessors was only an accidental phenomenon, into a fundamental pathological fact: it is to statistics that we owe this magnificent result." M. *Forget* does not neglect to consider the state of the fluids as well as of the solids in typhoid fever, and he has thus blended in his work a Broussaian Solidism with, what he calls, a rational Humorism. . . . In the department of surgical pathology and therapeutics, the treatise on External Pathology, by M. *Vidal de Cassis*, deserves to be named as a work remarkable equally for its perspicuity and candour as for its extensive erudition and good arrangement. We must not omit, too, the lectures on Clinical Surgery by that indefatigable writer, M. *Velpéau*, whose merits and whose faults are sufficiently obvious in all his writings.

Character of M. Velpeau.—"There can be no doubt that the surgeon of La Charité is not deficient in originality and power of invention, and that, moreover, he possesses a very extended knowledge of every subject that he treats of. But whenever these two qualities are brought prominently forward by an author, we very generally find that one proves injurious to the other. Now this is what occurs to M. Velpeau. He aims to pass for very learned; and his lectures, like his writings, and we may add, his practice too, present a living panorama of whatever is new abroad as well as in France. He has been aptly called the *great experimenter of the present time*, applying whatever others propose, and applying it, too, with a certain spirit of modification, if not of improvement. This arises from a disposition in his character to appropriate to himself every suggestion that he at all modifies, and to give a decided preference of his own manner of seeing and doing things to that of the original proposers. Now from this habit, praiseworthy we admit in principle, arise certain inconveniences which it may be worth while to note. M. Velpeau often does not make himself sufficient master of every subject that he canvasses and comments upon. Belonging to the school of sentiment rather than to that of experience, he judges of things at once, and from his first impressions, instead of waiting for the results of a complete and rigorous examination. In matters of actual practice he is guided in the same manner. More ruled by the wish to improve than thoroughly to understand, he does not study with sufficient attention the various processes and methods which he applies; he persuades himself that what others have done is neither novel nor important, and whatever change he introduces acquires in his eyes a *brevet* of invention, and a right of personal property. This mode of seeing and doing things gives to the honorable professor a seeming want of gravity and of good faith, and accounts for the numerous accusations which have been brought against him. Perhaps these reflections are applicable rather to the encyclopediacal character of his mind, and of his mode of instruction, than to his teaching itself. Certain it is that, if his lectures aimed less at being so comprehensive, they would gain in accuracy and profundity what they lost in the novelty and variety of their details."

After specifying the titles of numerous works which have been published in France during the course of the past year, the writer closes his remarks by mentioning the names of the most distinguished surgeons and physicians who have died during that period—viz. *Marc, Richerand, Bielt, Cloquet, Robiquet, Sedillot, Esquirol*, and *Landré-Bauvais*, members of the Institute; also *Graefe* the eminent surgeon of Berlin, *Omodei*, the well known journalist of *Milan*, Professor *Renchi* of Naples, &c.—*Gazette Medicale*.

APPLICATION OF THE SOLAR AND OXY-HYDROGEN MICROSCOPE TO MINUTE ANATOMY.

M. *Donné*, whose name is doubtless familiar to our readers as one of the most promising physiologists in France at the present time, and who for several years past has devoted much time and study to the microscopical examination of the blood and other animal fluids, has recently addressed the Royal Academy on the applications which he has made of the solar and the oxy-hydrogen microscopes, for the purpose of demonstrating the minute anatomy of the different elements of animal and vegetable structures, the composition of their various juices and fluids, the circulation of the blood and sap, the molecular arrangement of the nervous and muscular tissues, the development of pathological changes, &c.

(There is a now a *Microscopical Society* in London, of which Professor *Owen* is President, and many of the leading naturalists of the day are members. There cannot be a doubt but that much *light* may be thrown on the minute anatomy of

healthy and morbid structures by the application of the extraordinarily magnifying powers of the oxy-hydrogen microscope.—*Rev.*)

CASE OF GANGRENA SENILIS, WITH REMARKS BY M. ROUX.

The celebrated surgeon of the Hôtel Dieu objects to the common appellation, the gangrene of old people, given to this disease, on the ground of it not at all indicating the pathological alteration on which it depends. Formerly surgeons attributed this form of gangrene to a direct debility, and a diminished vitality of the parts affected; but the researches of morbid anatomy have shewn that it is the result of a lesion of the arterial system, which occasions the compression of the blood-vessels, followed by a more or less complete obstruction of their tubes. The cause of this obstruction may exist either in the interior of the vessels, or exteriorly to them, or in their parietes.

Another reason for his objecting to the name of the disease is the circumstance of it not being peculiar to old persons, as it is not unfrequently observed in middle-age, and occasionally even in young people.

The development of the gangrene is usually preceded by excruciating pains in the affected part; and in most cases it seems to be spontaneous. In not a few cases, however, some outward injury hastens its explosion and appears to act as the immediate exciting cause. *M. Roux* cited several instances in support of this fact; in some it was a sprain, in others it was a wound or blow, and in others it was the irritation from a mismanaged corn or bunion.

A man, 70 years of age, was recently admitted into the Hôtel Dieu for senile gangrene of the foot, the first symptoms of which had made their appearance some time before. He attributed it to an injury of the nail of the great toe. The gangrene gradually extended upwards to about a third the height of the leg; and there it stopped. *M. Roux*, after waiting a few days, amputated the limb, as he thought that the patient's strength was not sufficient for the protracted process of separation by natural efforts. The anterior tibial artery alone required a ligature; the posterior one was obstructed with a coagulum: the coats of the former were somewhat hard and partook partially of the alteration which the posterior and the other vessels had undergone more completely. Thus the gangrene of the limb was evidently owing to the obliteration of its arteries. Now such a state of the blood-vessels may take place in an acute as well as in a chronic manner, in consequence of an inflammatory condition of their lining membrane.

M. Roux alluded to a case of this sort in a young girl, whose arm he was obliged to amputate and who died; and to another case which occurred in a medical man's wife, during the season of the cholera, who died on the very day that the operation was to be performed. But this acute form of the disease is certainly of rare occurrence.—*Gazette des Hôpitaux*.

Remarks.—Our chief motive for having introduced these brief observations is to remind our readers of the suggestion of *Mr. Syme* of Edinburgh as to the proper treatment of senile gangrene. *Mr. Syme* objects to the usual practice of giving tonics and stimulants, and points out the great superiority of a lowering and antiphlogistic regimen, "by enforcing a strictly vegetable diet, abstinence from every sort of stimulant, and the maintenance of perfect quiet in the horizontal posture:" vide the last number of the *Medico-Chirurgical Review*, p. 549. (*Rev.*)

NEW METHOD OF COVERING PILLS.

The plan proposed by M. Garot for this purpose appears to be very simple, and is said to be very effectual in most instances. It consists in dipping the pills for a moment in a solution of gelatine and allowing this varnish to dry on their surface. The only objection to this method is, that if the pill be soft, or if it contain any oleaginous or oleo-resinous matter, as copaiba balsam, the gelatine by contracting during desiccation firmly around the surface is apt to squeeze this matter out. This inconvenience however is obviated by adding a little gum and sugar to the gelatine that is used. The following is a good mixture for the purpose:—take of dry gelatine *one* part, pate de jujubes *seven* parts, and of water as much as is sufficient. These materials should be slowly dissolved in a sand-bath, so that the mixture may acquire the consistence of syrup. The pills are then picked up with a long needle and dipped in the solution. If they contain any oily or resinous matter, it will be well to give them a second coating afterwards, when they have become quite dry. The little aperture left by the needle should be afterwards closed by touching it with the solution. The mixture which we have recommended, dries almost as quickly as the pure gelatine, and, besides contracting less firmly, it has a pleasant taste in the mouth.—*Journ. des Connaissances.*

PILLS OF COPAIBA, TURPENTINE, AND CUBEBS.

Dr. Puche, of the Hôpital du Midi, recommends the following formula for pills which he has found to be very efficacious in the treatment of gonorrhœa.

Dissolve in a sand-bath some dried (*cuite*) turpentine in an equal quantity of copaiba balsam, and add to the solution as much cubebs powder as may be sufficient to form a consistent mass. The pills or boluses may then be covered with a double coating of the gelatinous mixture mentioned in the preceding article.

M. RAYER'S FORMULA FOR THE INTERNAL USE OF COD-LIVER OIL.

Take of Cod or skate-liver oil 90 parts.
 Gum Arabic . . . 10 —
 Water 60 —
 Syrup of Opium . 60 —

These ingredients are to be well rubbed together, until the mixture is quite smooth and uniform. M. Rayer has employed this remedy in numerous cases of chronic pneumonia. He has given the pure oil in several cases of chronic gastritis, when the stomach has been able to bear it: sometimes, however, it is necessary to add a few drops of laudanum to the dose.

UTILITY OF ALUM IN DISEASES OF MUCOUS MEMBRANES.

The action of alum, as a local application, seems to be extremely beneficial in the various forms of inflammation and ulceration of the different mucous membranes of the body. Thus, in stomatitis or the membranous inflammation of the lining membrane of the mouth, in angina tonsillaris and pharyngea, in some affections of the larynx, in deafness dependent upon an obstruction of the

Eustachian tube, in numerous diseases of the vagina and cervix uteri, &c. this remedy has, when judiciously used, been productive of the greatest advantage.

M. *Delmas*, one of the physicians of the the Montpelier Hospital, has recently published an interesting report of his practice with this agent; and from it we derive the following observations.

It may be unnecessary to allude to various affections of the throat, as the use of alum in the form of a gargle is well known in such cases to all practitioners; but few perhaps are aware of its great utility in some of the forms of ulceration of the generative organs in both sexes. M. *Delmas* has derived great advantage from its employment in those large but superficial ulcerations which are so often found to exist in women affected with leucorrhœa. In the majority of such cases, the neck of the womb is more developed than in health, is very sensibly tumefied, and sometimes presents on its vaginal surface large granulations, which bleed on the slightest contact, and occasionally resemble some form of cancerous ulceration; these are the cases in which the *alleged* cures of cancer of the cervix uteri have been reported to have been effected. M. *Delmas* congratulates himself at having arrived at nearly the same conclusions as M. *Recamier*. This distinguished physician has used alum very extensively in various forms of ulceration of the uterus, and with the happiest results. Although it cannot cure cancer, it is often found to induce an advantageous modification in the diseased action of the adjacent tissues, and thus to retard very materially the progress of the greater evil.

M. *Delmas* has used alum not only in numerous affections of the mucous membranes, but also in the solutions of continuity of the skin. Here the application of it gives rise to much more decided effects, and the pain which it occasions is sometimes so intolerable that it may be necessary to moderate its action by incorporating it with cerate, and by adding, if requisite, some preparation of opium. It is more especially when the ulceration of the skin is connected with a syphilitic condition of the system that we find it expedient to act in this way; for in those old chronic sores, which seem to have acquired a sort of right of domicile in the part, we are seldom obliged to modify the dressing. One of the most remarkable cases, which has occurred in the practice of M. *Delmas*, was observed in a patient affected with elephantiasis. The right leg had become swollen to three times its natural size, and had been for a length of time the seat of an ulceration which occupied the entire lower third at least of the limb. The case had resisted every means that had been tried at different times, and the poor fellow's constitution had in consequence become seriously impaired. After a month's dressing with alum (it is not stated whether it was applied in the form of a powder, or mixed with cerate, or dissolved) more than two thirds of the extensive sore was firmly healed.

.... "In applying alum powder to solutions of continuity of the skin, it is sometimes necessary to mix it with lard, in consequence of the pain it occasions when applied alone. The form of dressing which I most frequently employ, says M. *Delmas*, consists in covering the wound with a thin layer of the powdered alum, and on the following day putting an emollient cataplasm over it, the use of which should be continued until the crust formed by the alum falls off. When this takes place, the surface of the wound is usually found to exhibit a more or less deep red colour, and from this we are to judge whether the application should be repeated or not."

The results of his general experience are summed up in the following conclusions:—

1. That alum acts as a local application in inflammation of mucous membranes by at once counteracting it and causing the morbid process to *abort*.
2. That when applied to solutions of continuity of these membranes, it greatly promotes the healing process, and that its action is never injurious in the hands of a judicious practitioner.

3. That it quickly determines the cicatrization of ulcerations of the skin; but that its effects in such cases require to be watched, in consequence of the pain and re-action which are sometimes apt to be induced.

4. That in syphilitic ulcerations alum is a powerful local remedy, more especially when the constitutional disease has been already combatted by appropriate general treatment.—*Journal de Med. de Montpellier.*

CASE OF TETANUS CURED BY LARGE DOSES OF MORPHIA, USED INTERNALLY AND ENDERMICALLY.

A young soldier was bitten rather severely in the hand by an insane patient whom he was attempting to restrain. Next day, after being exposed to the heat of a strong sun, he lay down in a field and fell asleep for some hours. In the course of the same evening, he experienced a general *malaise*, accompanied with headache, &c. On the subsequent day he was seized with violent contractions and jerking movements of the muscles of the back and neck, and with rigid stiffness of the limbs, alternating with strong convulsive twitches, so that it required five or six men to keep him in bed. The paroxysms, after lasting for several minutes, gradually subsided; but the intervals between the attacks did not exceed a few minutes. He was bled, and was ordered to take a quarter of a grain of acetate of morphia every half hour; he was then put into a hot bath, and a blister applied between the shoulders, the vesicated surface to be dressed with three quarters of a grain of the morphia, and this to be repeated every four hours. The doses of the medicine were gradually increased; the patient was again bled, and he had 3 or 4 more blisters applied along the back, and repeatedly dressed with morphia. By persevering in this mode of treatment, the symptoms gave way by degrees: and on the fifth or sixth day after the invasion of the attack, the patient was convalescent. He took upwards of 20 grains of the morphia by the mouth, and nearly the same quantity was applied, in the course of five days, to different blistered surfaces.

Within a fortnight after his recovery, he was brought again to the military hospital with a relapse of the convulsive paroxysms: indeed they seemed to be even more severe than on the former attack. So forcible and violent were the contractions of the muscles of the back and neck, that the attendants were afraid that he might either be strangled or break a blood-vessel within the head; for every now and then it was dashed backwards with terrible force. The trunk of the body too, supporting itself at two points on the occiput and on the buttocks, while the spine formed a concave arch, was almost continually bounding upwards with so much violence, as to threaten injury to the viscera within, as well as to the outward parts that were bruised. This attack seemed to have been brought on by intemperance. A similar treatment was followed with like success as on the former occasion.—*Journal des Connoiss. Med. Chirurg.*

Remark.—It is not quite correct to call this case one of tetanus; for it is evident that the muscular convulsive contractions were of the *clonic*, and not of the *tonic* kind. We should rather regard it as partaking of the characters of epilepsy and hysteria combined—a complication by no means unfrequent in youths of both sexes.—*Rev.*

Clinical Review.**GUY'S HOSPITAL.**

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THE present number contains the following articles :—Observations on Epilepsy; read to the Physical Society of Guy's Hospital, 1841, by B. G. Babington, M.D. F.R.S.

On Poisoning by Arsenic; the quantity required to destroy life; by Alfred S. Taylor.

Some further Illustrations of the Safety-Valve Function of the Heart; by T. Wilkinson King, (with plate.)

Statistical Report of Guy's Hospital Lying-in Charity, from October, 1833, to October, 1840; with Cases and Observations; by John C. W. Lever, F.S.S.

Report on the Value of Electricity, as a Remedial Agent in the Treatment of Diseases; by Golding Bird, M.D. A.M. F.L.S. &c.

Observations on real and supposed Pathological Conditions of the Urine; by G. O. Rees, M.D.

Some Observations on Stricture of the Urethra, Catheterism, and False Passage; founded on post-mortem inspection; by Edw. Cock.

Cursory Observations on some Cerebral Affections of Children; read before the Physical Society of Guy's Hospital; by H. Marshall Hughes, M.D.

On the Existence of Arsenic as a Natural Constituent of Human Bones; by G. O. Rees, M.D.

Observations on the Absorption of Metals into the Blood, in Cases of Poisoning; illustrated by an account of a case of poisoning by lead, occurring in a cow under the care of Mr. Cherry; by Alfred S. Taylor.

Account of a Fœtus in Utero, invested by False Membrane; by Henry Oldham, (with plate.)

Cases of Incised Wound of the Knee-joint, of Fluid in the Thyroid Body, and of Abnormal Thymus Gland. Communicated by Sir Astley Cooper, Bart. with plates.

MISCELLANEOUS CASES :—Case 1. Bone passed from the Urethra. Communicated by Mr. Bransby Cooper.—Case 2. Deficiency of the Pectoral Muscles. Reported by Mr. Alfred Poland, (with plate.)—Case 3. Sequel of a Case of Stricture of the Urethra; by Bransby B. Cooper, F.R.S.—Case 4. Case of Fæcal Abscess. Reported by Mr. Caleb Taylor, (with plate.)—Case 5. Ulceration of the Stomach, terminating Life by Hæmorrhage. From the Note Book of the late Mr. Bryant, (with plate.)

Case of a remarkable Enlargement of the Female Breast; by S. Ashwell, M.D. (with plate.)

Observations on the Laws which regulate the Deposition of Tubercles; with Practical Inferences applicable to the Prophylactic Treatment of Phthisis; by G. H. Barlow, M.A. and L.M.

History of the last Illness of Sir Astley Cooper, Bart.; and Examination of the Body after Death.

We shall run over these papers in succession, and select the principal points in them for notice.

I. OBSERVATIONS ON EPILEPSY. By B. G. BABINGTON, M.D. F.R.S.

It is the object of this paper to give some illustrations of epilepsy, and to offer
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some reasons for thinking that it depends on a functional, and not a structural change; and some grounds for the belief, that in many instances it admits of cure. Dr. Babington is of opinion that women are more frequently affected than men. He thus alludes to the occurrence of epilepsy in the lower animals.

"'The meagrimis, sturdy, or turnsick,' says Blaine, 'may be considered as a species of epilepsy, to which horses are not unfrequently subject; and in which, without previous notice, the animal, if in exercise, stops short, shakes the head, looks irresolute and wandering; in which state he continues a few minutes, and then proceeds as before. In more violent cases, he falls at once to the ground; or first runs round, and then sinks senseless. The whole system appears agitated by strong convulsions; the horse dungs and stales insensibly; is at some times violent, and at others more passive, but is equally unconscious of every thing around, in both. After remaining a longer or shorter period in this way, his faculties return, and he rises.'—3d Edition, p. 471. Dogs and cats are also subject to a loss of consciousness, under which they fall down and struggle; and caged birds are often similarly affected."

Dr. Babington relates a case in which there were first distinct epileptic seizures, and afterwards paroxysms of mere temporary loss of consciousness, unattended with falling or with convulsions. He considers these allied to the former. He adds—"Such I hold to be the nature of the case in a lady of my acquaintance, 73 years of age, who for the last two years has been observed occasionally to lose consciousness for a few seconds while reading or speaking; so that she will stop suddenly in the midst of a sentence, as if her attention had been accidentally arrested by some external circumstance. After this pause, she feels confused; and at length, becoming collected, will proceed with her sentence as if nothing had interrupted her. She evidently desires, however, to conceal what has occurred, and is annoyed if any notice is taken of the circumstance. What is commonly called absence of mind seems to be somewhat allied to this state, although a still slighter aberration of intellect: and with persons who are subject to this affection of the sensorium, it will sometimes happen, that in the midst of a narrative they will suddenly forget the thread of their discourse, and a degree of obliviousness or confusion will for a moment ensue, which bears a near resemblance to the slight epileptic seizures which I have been describing." Perhaps it is rather too hard on absent people to look on them as little better than epileptics. Absence of mind very frequently, nay most frequently, depends on its over-occupancy with a particular train of ideas, rather than on the interruption of consciousness. The attacks of semi-insensibility have been described as epileptic in their character by others. Esquirol, for instance, alludes to them.

Dr. Babington relates a good many cases which we do not think it necessary to insert. They illustrate the principal and too familiar features of epilepsy. He remarks, in reference to the *aura epileptica*—it is not necessarily connected with epilepsy at all; being sometimes felt by those who suffer from cardialgia, pyrosis, and other symptoms of dyspepsia. A near relative of my own furnishes an example. He is much subject to headaches, dependent on a disordered state of stomach; under which he ejects, by a kind of ruminating action hardly amounting to retching, large quantities of acid fluid. These attacks are often ushered in by a sensation of tingling in one arm, which mounts up from his fingers' ends, and gradually advances towards the face on the same side, affecting one half of the tongue, palate, and lips."

Dr. Babington compares epilepsy to sleep, to the torpor produced by mesmerism, and institutes several parallels of this sort. As a sample of his reasoning we may quote a brief passage.

"If an analogy be admitted between the phenomena of cramp and those of the suspension of consciousness in epilepsy, I might be led to suspect that both are dependent upon some change of position in the nervous molecules, having the effect of cutting off nervous influence; and, that so long as this change of posi-

tion continues, they are either no longer capable of discharging at all, or cannot discharge in an orderly and normal manner the functions which they are destined to perform."

Our author's notion of the pathological nature of the malady will be seen not to differ materially from that entertained by most well-informed men.

"Post-mortem examination, where it exhibits any appreciable deviation from health, leads to the same conclusion. All kinds of lesions, of the bones of the cranium, whether from accidents or original malformation, of the membranes of the brain, of the substance of the brain, of the position of the brain by adventitious growths or hydatids, of the medulla oblongata, of the spinal marrow, and of various remote organs, have been found in connexion with epilepsy: yet all of such various kinds, as to lead to a belief that it can only be one and the same specific effect on the nervous system, which is remotely and secondarily induced by each. That specific effect, for want of a more precise notion of it, I must call irritation; and as even various kinds of mental emotions are capable of producing it, I am here again led to the conclusion, that it is not in its essence an organic change, but merely some temporary alteration in the arrangement or position of particles."

With Dr. Babington's *methodus medendi* (?) we may conclude.

"Where the irritation, which I suppose to be the proximate cause of epilepsy, is complicated with and remotely dependent on organic change of structure, we cannot of course expect that treatment, of whatever kind, will either effect a cure of the disease, or throw any light upon its cause. Again: where it is combined with a state of plethora—never occurring but when the person is in a horizontal position, or after a full meal, and attacking those whose habit is gross and circulation forcible,—means, the opposite of those which would be adapted to remove the proximate cause, may be needed. Bloodletting may be necessary, as well as active evacuants, and an antiphlogistic line of treatment; but, with these exceptions, it is my belief that the same class of remedies which is best calculated to give tone to the system under *tic dolooureux*, and other spasmodic states of the nerves of motion and sensation dependent on nervous irritation, is also most applicable to this disease; and that the various preparations of bark, of iron, of arsenic, of silver, or of zinc, are those from the administration of which we shall derive the greatest advantage. Of the sulphate of zinc, I have lately made more frequent use than of any of the rest; and as it has proved efficacious in some cases, I shall conclude by an allusion to one or two of the most striking. Like all other remedies, it will often fail; but whether useful or not, it has the merit of being a safe remedy, and that when continued for a longer period, and in very much larger doses than is usually supposed. Those large doses seem sometimes, though by no means always, essential to its efficacy; and the method of reaching them, without producing nausea, is by a gradual increase, as in the case of emetic tartar. Thus Frances D—— (page 5), to whom I have more than once alluded, was enabled to take thirty-six grains, three times a day, for several weeks, without its producing any sickness or other untoward effect. This, in her case, was the maximum tonic dose; for when she took forty-two grains, which she continued to do for one week, she lost her appetite, and felt much sickness."

II. ON POISONING BY ARSENIC. THE QUANTITY REQUIRED TO DESTROY LIFE. By ALFRED S. TAYLOR.

Mr. Taylor shews that much difficulty exists in determining the minimum dose of arsenic, capable of destroying life. A witness is often asked the question.

Dr. Smith states, in his *Analysis of Medical Evidence*, that on a trial which took place at York in 1816, the medical witness, in reply to a question of this

kind, said, that *sixty* grains of arsenic would produce violent vomiting; that two drachms, in his opinion, would be sufficient to destroy life; although it would require at least *one ounce and a half* of that which is commonly sold in the shops. The evidence of this witness must have been very erroneously reported: or he must have been ill informed on the subject on which his opinion was asked. As some extenuation, however, of this unfortunate specimen of medical evidence, it is proper to observe, that it was very much the practice, formerly, to adulterate white arsenic with plaster of Paris, or other innocent powders. It is not unlikely that this practice may still continue in some parts of the country.

Mr. Taylor, however, has not found any impurity of this description in specimens of arsenic obtained from various London chemists.

According to Hahnemann, *two grains* of arsenic might suffice to destroy life in the course of a few days; but he adduces no case in support of this opinion. Dr. Christison, in his *Treatise on Poisons* (2d ed. 1832), states, that the smallest dose of the solid poison, which he has read of, amounted to *thirty* grains of the powder. This dose proved fatal in six days. The smallest actually fatal dose which he has found recorded, was four grains and a half; but in this case, the subject was a child four years old; death took place in six hours. In this instance, the poison was taken in solution.

Mr. Taylor thinks it certain that a much smaller quantity than thirty grains of this poison would destroy life. Our means of getting at the fact is to shew what are the largest quantities that have been taken without proving fatal, excluding those instances in which a large quantity of arsenic has been swallowed, in some bulky menstruum, or on a full stomach, owing to which early and violent vomiting has sometimes ensued, and the parties have ultimately recovered.

"Again, in considering this question, it is necessary to determine, whether age, sex, peculiarity of constitution, or the state of bodily health, may not influence the operation of this poison. In respect to *age*, it appears to be established by many cases, that arsenic more powerfully affects an infant than an adult; and it is not improbable that an aged and infirm person might be killed by a dose from which a younger person would recover. In respect to the influence of *sex*, I am not aware of any facts from which a definite opinion can be drawn, or, indeed, that attention has been directed to this point: it is however certain, that fatal cases of suicidal poisoning by arsenic are much more common among females than males.* That arsenic affects some *constitutions* more than others, appears to be well established from its employment in medicine. One patient is observed to be seriously affected by a dose which scarcely has any influence on another; and there are persons to whom arsenic cannot be administered at all. In making an estimate of the quantity requisite to destroy life, this point must not be omitted; for although the poison may be in comparatively small doses, fatal to all constitutions, we have here an explanation of the fact, that, *ceteris paribus*, from the exhibition of the same dose, one person may die and the other recover. Lastly, with regard to the state of *bodily health*;—we cannot refuse our assent to the view, that when the body is weakened by disease, it is possible that this active poison, in a certain dose, would operate fatally on one who might have recovered from its effects had he been in ordinary health. We are, I think, in the absence of facts, entitled to draw this inference, from the general principle, that a diseased state of body is favourable to the action of most noxious agents."

Mr. Taylor points out the fallacy which may attend conclusions drawn from experiments on animals. He mentions an instance. In a case tried at Leicester

* This is probably owing to the fact, that suicide by poison is much more common among females. Males generally destroy themselves by cutting the throat, hanging, drowning, or by fire-arms.

some years ago, several medical witnesses gave strong evidence against a prisoner charged with poisoning a female. From the rapidly fatal effects of the poison (hydrocyanic acid) on dogs, they inferred that this must have been a case of murder, and not, as it was alleged in defence, of suicide. Fortunately for the prisoner, this evidence against him was set aside by circumstances, which proved that the deceased must have designedly taken the poison herself. This case, with some others which might be adduced, establishes, that we are not justified in forming a positive opinion of the fatal doses of poisons in men, from experiments on animals, however numerous or well conducted they may be.

Dr. Lachèse, of Angers, has inferred that a smaller dose than two grains may prove fatal. Thirteen persons were poisoned by partaking of bread into which arsenic had been wilfully introduced. They all suffered from the usual symptoms of arsenical poisoning, but recovered in the course of a few days. This was thought to be a favourable case for estimating the effects of arsenic in a certain dose; and, accordingly, the bread was submitted to a quantitative analysis, by several eminent chemists. According to the opinions of some of these chemists, the proportion of arsenic was about half a grain to each pound of bread; and, on inquiry, it was found that those who had partaken of the bread could not have eaten less than a quarter of a pound, and therefore must have taken about *one-eighth* of a grain of arsenic.

This dose, according to Dr. Lachèse, has no other effect than that of inducing speedy vomiting;—it does not affect the mucous membrane of the stomach, nor does it become absorbed.

In the cases where from half a pound to a pound of bread had been eaten, *i. e.* where from *one-quarter* to *one-half* grain of arsenic had been swallowed, more decided symptoms of poisoning were manifested. The mucous membrane of the stomach was seriously affected;—the irritation was speedily propagated to the intestines;—thence followed pain in the abdomen, nausea, vomiting—the vomited matters holding sufficient arsenic to give rise to an acrid sensation in the œsophagus. The nervous system also began to be affected by the poison.

Some of these persons, not suspecting the cause of their illness, partook of the bread the following day; and the symptoms of arsenical poisoning appeared under an aggravated form, being accompanied by vertigo and great prostration of strength.

From these and other observations, Dr. Lachèse was led to infer that *one-eighth* of a grain of arsenic may seriously indispose a healthy adult,—that from *one-quarter* to *one-half* grain will give rise to all the symptoms of poisoning,—and that in the dose of from one to two grains, arsenic may cause death.

Mr. Taylor justly remarks :—Allowing that the chemical analysis in this case was correctly made, it is difficult to understand how the arsenic should have been so uniformly mixed with a hundred pounds of bread, as to justify the inferences drawn respecting the effects of particular doses. One part of the dough may have received more than another: whereas the conclusions are made on the assumption, that the poison was equally diffused, and that each person took a fractional portion of arsenic, according to the weight of bread consumed.

On the whole, it will be seen that there is considerable difficulty in admitting that the arsenic was thus equally diffused through the bread; and hence we cannot place much confidence in the conclusions.

Mr. Taylor mentions a very remarkable case which occurred in town in October, 1839.

A gentleman was dining with a party at the house of a friend. After dinner, the wine was passed round as usual; when, in the course of a short time, three of the persons present were seized with symptoms indicative of poisoning. The gentleman having observed that those only suffered who had partaken of port-wine, immediately suspected that the wine was poisoned. The whole of it was put back into the bottle, and sent to Mr. Taylor next day for chemical examination.

The wine was clear, of the usual colour and odour, and possessed all the characters of good port-wine. There was a small quantity of fine white sediment at the bottom of the bottle. Mr. Taylor suspected that the poison was arsenic, and such proved to be the case—that substance being dissolved in the wine, and the undissolved substance consisting of it nearly in a state of purity. The quantity in solution amounting to 28.8 gr. and the undissolved sediment consisting of about 60 grains.

The quantity of wine taken by each of the persons present at the dinner was pretty accurately ascertained.

1. A child, aged sixteen months, took about two teaspoonfuls, and therefore about two fluid drachms. This quantity of wine contained 0.3, or about one-third of a grain of arsenic. In about twenty minutes this child became sick, vomited severely for three hours, and then recovered. The child was the first affected: it did not complain of pain, and its sickness was supposed to be owing to some other cause.

It is remarkable—considering what appears to be well established, that arsenic severely affects young children—that this child should have suffered so little from so large a dose. Admitting that one teaspoonful of wine only had been taken, this would have contained one-sixth of a grain of arsenic; a quantity sufficient, we might *à priori* imagine, to produce the most alarming symptoms, if not death, in so young a subject.

2. A lady, aged 52, took a wine-glassful; excepting the two teaspoonfuls, which she gave to the child. In from thirty to forty minutes, she complained of a general feeling of uneasiness, for which she could not account; she suffered no pain, but vomited violently for four hours. She then recovered. This lady could not have taken less than *one grain and a half of arsenic*.

3. A gentleman, aged 40, drank a glass and a half of the wine. About twenty minutes afterwards, he complained of feeling unwell, and took some brandy. Vomiting came on, which lasted for three hours; but this gentleman did not entirely recover from the effects of the poison until after the lapse of several days. He could not have taken less than *two grains and a half of arsenic*.

"All these cases," observes Mr. Taylor, "agree, in the absence of pain: the only symptoms of arsenical poisoning which they exhibited, were, the violent vomiting, and prostration of strength. To what are we to ascribe the recovery of the two adults, from doses of arsenic which would commonly be set down as sufficient to kill? It will be observed, that in estimating the quantity of poison taken by these persons, I have only considered that which was actually dissolved in the wine. It is possible, with a freshly-decanted bottle, that some of the finely-levigated powder may have been mechanically suspended in the wine, and swallowed by them. Confining ourselves to the portion really dissolved, we learn, by these cases, that a dose of arsenic amounting from one grain and a half to two grains and a half may be taken by an adult, not only without destroying life, but without even exciting very formidable symptoms.

It does not appear reasonable to attribute this exemption to peculiarity of constitution; since this would be rather an evasion than an explanation of the difficulty. It must also be made applicable to all who suffered; the child as well as the adults. Perhaps a more correct view is, to attribute the escape of these persons to the fact, that the poison was taken on a full stomach, after a meal; and that, becoming mixed up with the half-digested food, it was speedily and effectually ejected by vomiting. The fact of exemption, under these circumstances, was long ago observed by Morgagni. This explanation would apply at least to the two most difficult cases; namely, to the two adults, who took so large a quantity of the poison."

After some further remarks, he adds—"It appears to me to be a subject for further inquiry, whether this poison may not be taken in a much larger dose than is commonly supposed, without destroying life. Can we say it is impossible that

a person should recover after having taken five or ten grains? or would a witness be justified in swearing that such a quantity of this poison must necessarily destroy life? These questions should, I think, at present be answered in the negative. All that we are justified in saying, is, that, judging from the effects of smaller doses, these quantities would *probably* kill; but that nothing certain was known as to the quantity which would constitute the lowest fatal dose of the poison. If a witness answered the above questions affirmatively, a court of law would probably require good grounds for the affirmative answers, or at once reject them." And no such grounds appear to exist.

Another point touched on by Mr. Taylor is the source of the arsenic in the wine. It had been, he says, according to his information "procured, as usual, from a wine-merchant. Bottles of wine from the same stock had been previously consumed without giving rise to any symptoms of poisoning. In short, from all I could learn, this appears to have been a solitary bottle poisoned in the stock. There is something calculated to excite the most painful feeling, in the idea that wine should be by any accident produced, at a private table, containing upwards of eighty grains of arsenious acid: and we cannot but regard it as a most fortunate circumstance, that, out of ten or twelve persons present, not more than three should have partaken of this wine, and in so small a quantity. Three or four glasses of the wine, perhaps even less, would probably have destroyed the life of an adult.

It appeared that the poison could not have been placed in the wine after it had been decanted; and there was no doubt that the bottle had not been interfered with, since it was first corked, and sent by the wine-merchant. Suspicion was immediately directed to the possibility of shot having been left in the bottle, this being known to contain a portion of arsenic, used in the manufacture to give it hardness: but when the bottle was delivered to me, there were no shot, nor any traces indicative of shot having been left in it. The white sediment was quite free from the presence of lead. The wine, although acid, probably from tartaric acid, contained no traces of lead dissolved; and altogether it seemed unnecessary to pursue this inquiry further. He did examine into it, however, and seems to have ascertained that the arsenic present in dust shot probably weighs no more than $\frac{1}{100}$ th the weight of the lead. As a single pellet weighs about two grains, this would give $\frac{1}{50}$ th grain of arsenic for each. Thus, allowing this to be an approximative estimate of the largest quantity of the poisonous metal likely to be present, it would follow, that an ounce of dust-shot would contain, on the average, about *five grains* of arsenic, in the state of arseniate and arseniuret of lead.

It will now be seen, from this calculation, that to have produced the quantity of arsenious acid present in the poisoned wine, it would have required the separation of arsenic from about eleven ounces of shot! But even admitting that the arsenic in each pellet was in the large proportion of $\frac{1}{50}$ th grain—a very improbable supposition—it would have required at least *five ounces and a half* of shot to have produced the quantity of arsenious acid discovered in the bottle. It is not likely, that, under any circumstances, so large a quantity of shot should have been accidentally left in a bottle; nor is it likely that all the arsenic should be thus extracted from the shot, without the lead becoming at the same time separated, and the wine strongly impregnated with the metal. But in this case, no soluble or insoluble salt of lead had been produced."

Mr. Taylor introduced some shot in which arsenic had been ascertained to be present, into some port and some sherry wine. They were not contaminated. And it, therefore, seems unreasonable to anticipate danger from this source. The following observations are of the first importance.

"Enough has been said to shew that the wine, in the case related, could not have derived its impregnation with arsenic from shot left in the bottle; and this unfortunate accident remains to be accounted for in other ways. The only explanation which occurs to me, is, that the bottle must have been used for con-

taining the poison previously to the wine having been put into it. Thus arsenic is largely used by shepherds, as a lotion to kill the fly in sheep; also by farriers and others, for veterinary purposes. It is also sold as a bug-poison. Bottles, thus used for containing the poison, are bought by pedlars; and when a sufficient number is accumulated, they are sold. It is in this way that poisoned bottles may pass into the hands of wine-merchants, without their being aware of it; and unless more than usual caution is employed in cleaning them, the wine put into them will become poisoned, and give rise to serious consequences. The rinsing of the bottles, or even allowing them to soak in water, will not remove the arsenic effectually; for this commonly exists in the interior, adhering to the sides or edges in the form of a hard crust. Bottles which have contained poisonous substances of this kind should always be destroyed. Public attention has not been sufficiently drawn to this subject, owing to a want of a vigorous system of medical police; but I have reason to believe, from attending to the numerous cases of poisoning which have occurred within the last ten years in England, that many cases of this kind have occurred, especially with stone bottles such as those which are used for the sale of ginger-beer, in the streets of London. The illness or death has been ascribed to cholera, or some imprudence on the part of the affected person, when the real cause was probably some irritant poison.

About the same time that the case, which I have described, occurred in London, one somewhat similar happened in France. A father and son were seized with severe vomiting, immediately after their supper. It was found, on examination, that the wine which they had drunk was poisoned with arsenic, and was the cause of the symptoms. The iron antidote was administered, and they both recovered the following day. Some other members of the family, who had drunk the wine, were seized with vomiting. A large quantity of arsenic was found at the bottom of the bottle. It was presumed that the two persons who had suffered most severely had taken more than sufficient to occasion death; and that they would probably have died, had it not been for the timely application of the antidote. There is but little doubt that the bottle had been used for an arsenical lotion.

An interesting case is related by Dr. Christison, where six persons suffered severely from taking arsenic in champagne, while dining at the house of a friend, a baronet in Roxburghshire. The quantity of arsenic calculated to have been taken by each adult amounted to one grain. They all recovered. In this case, the wine was traced to have been sent poisoned by arsenic from a wine-merchant:—no doubt accidentally, and probably from the bottle having been previously used for an arsenical wash.

The following case will corroborate the view that has been taken of this source of accidental poisoning.

In August 1836, four persons of a private family in Jersey were seized with alarming symptoms of poisoning, after a meal. One of them, a lady who had been in a declining state of health, speedily sank under the symptoms: the other three recovered. It was at first thought that hemlock had been put into the broth by mistake; but the medical attendant, finding that the symptoms were those of irritant poisoning, directed his attention to the liquids which had been used at the meal. It appeared that some perry, contained in a stone bottle, had been drunk; and it was then suspected that the glaze in the bottle might have impregnated that acid liquid with a poisonous dose of lead. The bottle was washed out but no sediment was obtained, and it was therefore broken by the medical practitioner. He then found, at the bottom of the bottle, a thick incrustation of an earthy looking substance, in quantity exceeding an ounce, which adhered so firmly to the bottle, that it was necessary to remove it with a sharp knife. This substance, on examination, turned out to be arsenious acid, without any admixture of lead. The symptoms in all, and the cause of death in one of the persons, were thus satisfactorily explained.

In the opinion of the examiner, the arsenical crust had been there for some years. No washing or concussion of the bottle would have sufficed to dislodge it; and owing to the bottle being opaque, its presence never could have been suspected.

The history of this unfortunate case was, that a quantity of stone bottles had been purchased at Liverpool, for the purpose of bottling the perry which had been supplied to the deceased and her friends; and from the appearance of this bottle, no doubt could exist that it had been, at some previous time, used as a receptacle for bug-poison.

Considering the whole of these facts, I am inclined to believe that this is the true solution of the cause of the wine having been poisoned in the case narrated in this paper; and that, except in the great caution used by respectable wine-merchants, the public have no protection against such accidents being of much more frequent occurrence than they are."

III. STATISTICAL REPORT OF GUY'S HOSPITAL LYING-IN CHARITY, from Oct. 1833, to Oct. 1840. WITH CASES AND OBSERVATIONS. By JOHN C. W. LEVER, F.S.S.

The Lying-in Charity attached to Guy's Hospital, we are informed, was founded by the Treasurer, at the close of the Autumn of 1833, for the purpose of providing poor women with medical attendance and medicines at their own habitations, during their confinement. Females who live within a reasonable distance from the Hospital, and are fit objects of this Institution, may avail themselves of its benefits, by entering their names in a book kept at the office of the charity. The Institution is managed by a Physician Accoucheur, two Assistant Accoucheurs, and a Female Attendant, to whom all applications are to be made. Pupils who are desirous of attending women during their confinement enter their names and residences at the office; but those *only* who have attended lectures, and are considered competent, have cases consigned to their care. The patients are allotted to each pupil by the assistant accoucheurs; who, in the distribution, keep in mind the residences both of pupil and patients, and the experience of the former, with the probability of a difficult or complicated labour. The Regulations of the Institution require a pupil, as soon as he receives a letter, to call on his patient; and if unavoidably prevented from attending her, he must give immediate notice at the office of the charity. Pupils are not permitted to administer the *secale cornutum*, nor to use any obstetric instrument, without the sanction or presence of one of the assistant-accoucheurs, or of the physician accoucheur. The Regulations further require, that if a patient has been in labour for more than twelve hours after the discharge of the liquor amnii, if there be any preternatural presentation, or if any unusual or urgent symptoms supervene, the pupil in attendance must obtain the advice of one of the assistant accoucheurs. After a patient's confinement, she is to be seen daily during the first week, and as long after as her condition may require. The letters given to the patients have blank certificates at the bottom; which pupils are required to fill up after delivery, stating the sex of the child, whether alive or still-born, the day of birth, &c. Each pupil is required to give into the office a report of the labour, stating its nature, &c.; and if deemed requisite, he must furnish a daily account of her symptoms, treatment, &c. These Regulations have been most strictly observed since the establishment of the institution: and they have been found not only to ensure the greatest attention towards the patients, but also to the pupils ready advice and assistance, affording all the clinical benefits of a Lying-in Hospital.

From 1833 to 1840, 4666 women have been attended by the pupils attached to the Lying-in charity.

A table is given with the view of shewing the number of women confined in

each month, in seven years, extending from 1833 to 1840. It appears that in May the greatest number of confinements have taken place, and in October the least. The months run in the following order :—

May	September	August
December	January	November
March	July	June
February	April	October.

These results differ from those published by MM. Quetelet and Villermè. The order of births among the town and country population of the Low Countries, during the twelve years from 1815 to 1826, was as follows :—

COUNTRY POPULATION.

February
March
December
April
January
{ October
 November }
September
May
August
June
July.

TOWN POPULATION.

February
March
January
April
December
November
September
October
May
August
June
July.

From another table it seems that the greatest number of women have been attended in their first confinements, and that the number gradually lessens in amount as the repetitions of pregnancy increase; for which there are obvious reasons.

Table III. distinguishes the sex in 4432 children born alive. Of these 2318 were males—2114 were females. Table IV. distinguishes the sex in 263 still-born children. Of these 157 were males—106 were females.

From a careful examination of these tables, it will be seen, that the proportion of males to females born alive is as 52.3, to 47.6; and the proportion of males to females still-born is as 59.69 to 40.3.

By comparing the two tables, it will also be evident, that there is an excess of 7 per 100 in the males still-born, as contrasted with the males born alive; and a corresponding defect of 7 per 100 in the females still-born, as compared with the females born alive. It also appears that the ratio of children still-born to the children born alive is 5.6 per 100. Dr. Collins, in his admirable "Practical Treatise on Midwifery," states, that during his residence as Master at the Dublin Lying-in Hospital, out of 16,654 children born, 1121 were still-born: this will give a ratio of 6.7 per 100. Casper, in his "Über die Sterblichkeit der Kinder in Berlin," gives the following Table :—

Places.	Births, for one Still Birth.
Strasburgh	11
Hamburgh.	15
Dresden	17
Paris	19
Berlin	20
Vienna	24
London	27
Brunswick.	33
Stockholm.	36

The mean of this table will be about 1 still birth to 22 births; differing from the result of the Berlin Registers, which, kept for a period of sixty years, gives 19.8 as the mean.

The results of the Registers of Amsterdam from 1821 to 1832 give the number of births at 7282, and the number of still births at 430; making the proportion 1 still birth to 16.9 births.

At Paris, the "Annales du Bureau des Longitudes" give the following results:—

From 1823 to 1832, Births	.. .. .	287,639
Still Births	.. .. .	16,190;

the proportion being 1 still birth to 17.7 births.

Table V. shews the varieties of labour in 263 cases of still-born children. And—

Table VI. shews the varieties of labour in 4666 women, attended between October, 1833, and October, 1840. We must content ourselves with a summary of them.

It appears, says the reporter, that 4290 labours were natural; being in the proportion of 91.9, or nearly 92 per 100. Of this number, in 4266 cases the vertex presented, or in the proportion of 99 in 100. The cases of face-presentations amount only to 24, or 1 in 179 cases.—The following is the comparison between Guy's Charity and other Institutions.

	Proportion.
Guy's	1 Case in 179.
M ^{me} . Boivin	1 . . . 275.
Merriman	1 . . . 450.
Dublin Hospital	1 . . . 504.

Of the 4266 cases of vertex-presentation, in 103 the children were still-born; viz. in the proportion of 1 in 42, or 2.4 per 100. In six of the 24 face-presentations, the children were still-born; or 1 in 4, or 25 per 100: this mortality exceeds that of children born under the same presentation in the Dublin Lying-in Charity, which was 1 in 8, or 12 per 100.—The following Table will shew the duration of labour in the 24 face-presentations:—

Hours.													
Duration	2	5	7	8	9	10	12	13	14	15	18	21	29
Number of Cases	1	1	2	3	1	5	3	1	1	1	3	1	1

Premature Labours.—By referring to the Table, it will be seen that 55 labours are reported as premature: of this number, 6 were induced. Of the 49 labours that spontaneously occurred, 40 children were still born, or 81.6 per 100. The ratio of premature still births to the total is 15.2 per 100. In the Dublin Lying-in Hospital, the ratio was 26.2 per 100. Six cases of premature labour are reported as having been induced. Of this number, one woman was admitted as a patient of Mr. Key's, in Dorcas Ward, labouring under osteosarcoma of the knee, involving the lower half of the femur, and the heads of the tibia and fibula: her case is reported at length in Guy's Hospital Reports, Vol. I. p. 323. Labour was induced in the remaining five cases, to supersede the necessity of perforation; that operation having been resorted to on previous occasions, to accomplish delivery, the pelvic diameters being seriously abbreviated.

The following table will shew the method of operating; the length of time that elapsed from the period of induction to the commencement of pain; and the completion of the labour, the presentation, and the event to the child.

No.	Method of Induction.	Hours before occurrence of Pain.	Hours before completion of Labour, after the operation.	Presentation.	Event to Child.
1.	Puncture, & Tinct. Secale	27½ hrs.	50 hrs.	Nates . .	Still.
2.	Puncture	12 ..	20 ..	{ Feetabd. } anterior.	Still.
3.	Puncture	12 ..	40 ..	Nates . .	Still.
4.	Puncture	132 ..	138 ..	Vertex . .	Alive.
5.	Separation of Membranes	11 ..	27½ ..	Vertex . .	Still.
6.	Puncture	2 ..	7½ ..	Vertex . .	Still.

From this table, it will be seen that only one child was born alive, and that under a vertex-presentation: and it is remarkable, that, in this case, labour-pains did not commence until the expiration of 132 hours; and did not terminate until the expiration of 138 hours, from the period of operation.

The following table will shew the results of the practice of other operators:—

Mr. Barlow	{ operated 16 times; and in 2, premature labour occurred spontaneously }	18	} Children born alive.
Dr. Denman	in 12 Cases	7	
Mr. Marshall	4	1	
Dr. Merriman	33	13	
Dr. Hamilton	45	41	
Guy's Lying-in Charity	6	1	

Protracted Labours.—In 62 women the labour was protracted, being in the proportion of 1.32 per 100. The chief causes which led to the protraction of labour, were, imperfect uterine action; rigidity of the soft parts; disproportion between the head of the child and the pelvis of the mother; firm and extensive ossification of the foetal head not allowing of compression.

In 16 cases out of 4666, delivery was effected by the instrumentality of the secale cornutum, making a proportion of about one case in 292 deliveries. These cases were the most favourable that could possibly offer for the exhibition of this drug; in them the presentations were natural, the parts fully prepared to admit with safety the passage of the child, and nothing but uterine pains appeared to be wanting to complete the delivery. In these cases, the secale acted speedily and effectually. The preparations of the drug administered, were, the pulvis ergotæ, the tinct. ergotæ, and the ethereal tincture of ergot. Mr. Lever adds:—

Of this latter preparation I can speak with the greatest confidence, having upon several occasions tested its efficacy and value; and in fact, I may say, when I have exhibited it, it has never failed to accomplish the object I had in view. It was first prepared for me by my friend Dr. G. O. Rees; and his method of preparation was published by me in the Medical Gazette of April 4, 1840. The dose I exhibit is m. xxx. to m. xl. given in sugar. In 21 cases only was delivery effected by the embriospastic instruments; viz. 9 by the forceps, and 12 by the vectis; or about 1 in 222. In 25 cases, the operation of lessening the child's head was had recourse to, being in the proportion of 1 in 187 deliveries. If we add the number of women delivered by the vectis and forceps to the number delivered by the assistance of the perforator, we shall have 46 instrumental deliveries in 4666 cases, or in the proportion of one case in about 101 deliveries.

The following table presents the proportion of Instrumental Deliveries at other Institutions.

Dreaden, Dr. Carus	1 in every	13
Berlin, Dr. Kluge	1	15
Heidelberg, Professor Næglè	1	28
Marburg, Dr. Siebold	1	9
Vienna, Dr. Boer	1	96
Paris, Madame Boivin	1	183
Dublin Lying-in Hospital, Dr. Collins	1	114
New Lying-in Hospital, Dr. Beatty	1	99
Wellealeay Dispensary, Dr. Maunsell	1	34
London West. Gen. Dispensary, Dr. Granville	1	80
Dr. Merrimann, (private practice)	1	98
Guy's Hospital Lying-in Charity	1	101

In 3 cases only the long forceps were employed: in the remaining 6, delivery was effected by the short forceps. 5 children, out of the 9 delivered by the forceps, were still-born; and but 1 out of the 12 delivered by the vectis. The causes of perforation, in the 25 cases in which this operation was had recourse to, were, deformity, and abbreviation of the pelvic diameters; abnormally-developed foetal head; an unusual degree of ossification; hydrocephalic head; rupture of vessel in the vulva and great effusion of blood, with subsequent laceration of mucous membrane.

A rather amusing and instructive case is detailed of a hydrocephalic head requiring puncture to admit of delivery. The mother had joined the tea-totallers during her pregnancy, and after confinement she gave them up as all moonshine—no one being able to persuade her that the water in her child's head was not due to the immense quantity she had drunk!

In no case of protracted labour has there been long sloughing of the urethra, nor any case of fistulous communication between the urethra and vagina, or vagina and rectum.

Preternatural Labour.—The cases of preternatural labour amount to 109, or 2·33 per 100: the number of still-born children amount to 60, or 54 per 100. In Dr. Collins's report of the Dublin Lying-in Hospital, the number of preternatural labours amount to 506, or 3 per 100; the number of still-born children to 228, or 45 per 100. The nates-presentations were 59; and of these deliveries, 30 children were still-born. In the Dublin Lying-in Hospital, the nates-presentations amount to 242; the still-births to 73. In the Guy's Lying-in Charity, the footling cases were in number 29: the still-births 16. In the Dublin Hospital, the footling cases were 127, the still-births, 62. In the Guy's Charity, the presentations of the upper extremity were 15, the still-births, 10. In the Dublin Hospital the presentations of the upper extremity were 40; the still-births, 20. The funis-presentations amounted in Guy's Charity to 6: in 4, the children were still-born: whereas in the Dublin Hospital the presentations of the umbilical cord amounted to 97; the still-births to 73.

Complex Labour.—The number of cases of complex labour amount to 94; or 2·01 per 100. The number of still-births amount to 19; about 1 in 5, or 20 per 100. Of these 94 cases, 33 were twin labours; or 1 in 141 of the whole number of women delivered, being 0·7 per 100. The number of twins still-born amount to 6.

The following tables will shew the proportion of the sexes in twin labours, and also the nature of the presentations:—

No. of Cases.	Both Males.	Both Females.	One of Each Sex.
33	11	11	11

<i>Nature of Presentations.</i>	
Vertex in both 15	Vertex in both. Face in one } 1
Vertex and Nates 7	situated externally . . . }
Vertex and Foot 5	Nates in both 2
Vertex and Shoulder 2	Nates and Foot 1

The proportion of twin-births is small, when compared with the returns of other Lying-in Institutions. In France, the proportion is said to be 1 in every 95 births; in Germany, 1 in 80; in England, 1 in 92; in Scotland, 1 in 95; and in Ireland, 1 in 62.

In 14 labours, continues Mr. Lever, presentation of the placenta has occurred: in 9 the placenta has entirely covered the os uteri, while in 5 it partially presented: in all, delivery was accomplished by the operation of turning. Eight of the children were still-born: in one, the head was unavoidably lessened, owing to the contracted state of the pelvis: (this operation had been resorted to in her previous labour). Presentations of the placenta have been more than four times as numerous in the patients of the Lying-in Charity of Guy's as among those of the Lying-in Hospital of Dublin: for whereas, at Guy's, 14 cases have occurred among 4666 women, only 11 cases in 16,414 occurred at the Dublin Lying-in Hospital during Dr. Collins's Mastership; and out of the eleven, 5 children were still born, 2 of them being putrid.

Retained Placenta.—These cases, amounting to 37, include those where the placenta is not expelled from uterine inaction, as well as those where there was morbid adhesion. 15 cases of the latter are recorded; and it is worthy of notice, that in 12 out of the 15, the placenta was adherent to the anterior and upper part of the uterus, as ascertained by the introduction of the hand to effect the removal. In the former cases, the uterus was stimulated to contract, in some instances by the introduction of the hand, but in the majority by the exhibition of the secale cornutum.

Puerperal Convulsions.—Four cases of this distressing complication have occurred; being in the proportion of 1 to 1166. The particulars of the four cases are briefly recited. In all, the children were born alive, and the mothers recovered.

Dr. John Clarke, in his abstract of 10,387 cases, has 19 cases of convulsions, 17 before delivery, and 16 cases of first pregnancy: 6 of the mothers died. Dr. Merriman states, in his "Synopsis, p. 141," that 28, out of 36 cases of convulsions which he had witnessed, were instances of a first pregnancy; and that in two of that number there were twins. Dr. Collins states, that 30 cases occurred, during his Mastership, among 16,414 women: 29 were in women with their first children; and the remaining case was a second pregnancy, in a woman who had suffered in a similar manner in her first labour. The 30 women attacked gave birth to 32 children, two of them having had twins. 14 children were born alive: 20 of the children were males: in 18 cases of the 30, the convulsions subsided after delivery: in 10, the fits occurred both before and after; and in 2, the attack did not come on till after delivery. Five of the women died.

Of *Epileptic Mania*, always occurring after delivery, there was a fatal case, and there was a case of *Puerperal Mania*, which was sent to Bethlem.

Labour complicated with Typhus Fever.—Of this there was an interesting case which did well.

Rupture of Uterus.—Three cases of ruptured uterus are reported as having occurred during the seven years embraced in this Report: they hold a proportion to the other cases, as one in 1555 cases: they all occurred in one year, 1839-40, and two within three days of each other. All proved fatal. They are related

circumstantially, but we need not introduce them. Mr. Lever remarks on them.—

“These cases are replete with interest. In the first, the only one examined, there was old chronic disease of the womb; and at that part where the uterine tissue had degenerated, the laceration had occurred. In the second, every thing that could possibly be administered was done for the patient, with the exception of the employment of the ant. pot. tart. Should such a case again present itself, I shall most certainly prescribe the tartar emetic, in full nauseating doses. This remedy, of all others, seems to have the greatest power in controlling or cowering uterine action; and since the occurrence of this case, I never allow myself to be without some of the mineral in my possession. In the third case, it is hard to say at what time the laceration took place; as none of the symptoms occurred suddenly, but came on very gradually, and almost imperceptibly; so that it was probably only owing to my going fresh and unbiassed to the case that I was led to suspect the occurrence of an accident which Mr. Wright, an able and cautious pupil, had not imagined. For my own part, I cannot but believe that the violence to which this poor woman was subjected by her Irish charmer was the immediate and sole cause of the laceration.”

The *charm*, to which Mr. Lever alludes, consisted in the gentleman's getting upon the bed, raising the woman to an upright position on the floor, and then lifting her up and down four or five times like a paviour's rammer, uterine efforts continuing all the while!

Flooding Labour.—The number of cases of flooding labour amounts to 51, or 1.09 per 100. Under this division are included 16 cases of accidental hæmorrhage before the birth of the child; 20 cases of hæmorrhage after the birth of the child, and before the expulsion of the placenta; and 15 cases occurring after the expulsion of the placenta. In the 16 cases of accidental hæmorrhage, rupture of the membranes was successfully practised, and only 2 children were still-born. In 12 of the 20 cases of hæmorrhage before the expulsion of the placenta, manual assistance was had recourse to, assisted by the exhibition of the different forms of the ergot already mentioned, and the other adjuvatory measures so well known.

Fatal Cases.—The number of fatal cases that have transpired during the seven years, is 40, or about 1 in 117. At the Dublin Lying-in Hospital, the proportion of women dying in child-bed was 1 in 100. A good and useful abstract of the cases is furnished, but we refer our readers for it to the original. This statistical paper reflects credit upon Mr. Lever.

IV.—REPORT ON THE VALUE OF ELECTRICITY, AS A REMEDIAL AGENT IN THE TREATMENT OF DISEASES. By GOLDING BIRD, M.D., A.M., F.L.S., &c.

Our able friend Dr. Bird has conducted a series of experiments on the remedial effects of electricity with great care, and his report is likely to be very serviceable. “In October, 1836,” he says “the Treasurer, Mr. Harrison, appropriated an apartment in the hospital for the purpose of submitting patients to electrical treatment. In this room, all the apparatus required for the administration of electricity to the sick is kept in a condition fit for immediate use. The out-patients, as well as those from the various wards, attend at this room daily, at three o'clock; notes of their cases are taken by one of the Students, who acts as clinical clerk, and, in my absence, directs their treatment. A competent female attendant resides in apartments attached to the room, for the purpose of keeping the apparatus in order, and applying electricity to the female patients. In this

manner, every case is registered; its progress watched by the pupils; and any change of treatment is directed by myself, for which purpose it is my duty to attend on two days during the week."

After pointing out the identity of electricity and galvanism, and stating the distinction which exists between them—viz., that whilst in both we have the very same form of matter, in the former we have a small quantity very concentrated, in the latter a much larger proportion in a dilute form. Dr. Bird goes on to remark:—

"When a person is placed on a stool with glass or other non-conducting legs, and connected with the prime conductor of an electrifying machine in action, his whole surface becomes, by induction, powerfully electro-positive; and combination, by silent discharge, is constantly occurring, by absorption of negative electricity from the air: this may be seen to take place luminously in the dark, especially about the hair, eyelashes, fingers, &c. During this luminous discharge, heat is evolved, the circulation becomes quickened, the secretions generally become more active, and perspiration breaks out. A person thus situated is said to be in an *electric bath*; and it is by no means improbable that this might be frequently employed with advantage in certain affections in which the functions of the skin and mucous membranes are deficient. The evolution of heat during this silent discharge is sufficient to demonstrate the mode in which the physiological effects alluded to are produced, and was, I believe, first pointed out by a former pupil of my class, Mr. Thomas Smith, now of Maryport, who performed the duties of clinical clerk in the electrical room, with the greatest zeal and attention, during several months. This gentleman coated the bulb of a delicate air-thermometer with tinfoil, and connected it with the conductor of an electrifying machine: silent discharge took place from the coated portion; and the coloured fluid fell in the tube upwards of an inch, from the expansion of the included air by the heat evolved.

If, whilst a person is connected with the prime conductor, and his whole surface is highly positive, or exposed to the *electric bath*, any conducting body connected with the earth, as the hand or a metallic ball, be brought near him, it becomes highly negative by induction; and when sufficiently near, the negative electricity combines with the positive of the person's body, producing a vivid flash of light and a snapping noise, forming the disruptive discharge, or what is called the *electric spark*. The person who is the subject of this experiment feels a sharp pungent sensation at the spot where the spark occurred; and in delicate skins, a small circumscribed wheal is produced, surrounded by a little inflammatory blush: this much resembles lichen urticatus, and generally disappears within an hour from the time of its production.

If an electric jar be charged, and the communication between its outer and inner surfaces be made through the medium of the human body, a peculiar stunning sensation, known as the *electric shock*, is produced. This seems to depend upon the neutralization of the electric condition of the jar producing disruptive discharge; and the physical conditions for its production are identical with those required for the spark, from which it differs only in its more intense effects, arising from the larger surface under inductive influence.

When the influence of a large quantity of electricity is deemed desirable, we have recourse to that form denominated galvanic or voltaic electricity. This is readily excited by various forms of chemical action; but, for medical purposes, is more conveniently procured in a state of high tension by means of magnetic or electro-dynamic induction, various contrivances for effecting which are described in all works on Physics. The apparatus I prefer is that described in a Paper I published some few years ago; and may be briefly described thus:—A bundle of soft iron-wire is placed in the centre of a wooden reel or bobbin; around which is wound a quantity of stout insulated copper-wire, having its two ends free, for the purpose of being connected with a single pair of plates of

copper and zinc exposed to chemical action : over this is wound about 1300 feet of very thin insulated copper-wire. The two ends of this coil are furnished with directors, for the purpose of being applied to any portion of the body or limbs required. If, then, one end of the inner coil be removed from the battery, the constraining inductive force previously exerted on the thin coil is removed, and all the electricity naturally present in it is discharged through the portion of the body or limb touched by the director, producing an electric shock. By adapting a piece of apparatus for mechanically breaking contact with the simple battery employed, a series of shocks can be sent through a limb, either very slowly and mildly, or at the rate of two thousand or more in a minute; producing such a rapid succession of discharges, as to give rise to a sensation amounting to insufferable torture.

In one or other of the three latter modes, electricity has been employed at the hospital; viz. in sparks, shocks from a jar, or shocks from the electro-magnetic apparatus last referred to.

CHOREA.

A considerable number of cases of chorea, or St. Vitus's Dance, as it is popularly termed, varying in intensity and in the circumstances connected with its cause and development, have been submitted to electrical treatment since the publication of Dr. Addison's Paper on the Use of Electricity in certain Spasmodic Affections, in a former number of these Reports. Of these cases, notes of thirty-six have been preserved in the Report Book; the histories of the others not being complete, from the irregular attendance of the patients. Dr. Bird presents a table of these cases. Of these 29 were cured—5 were relieved—one patient left from alarm—and one found no relief: Dr. Bird observes that it must be born in mind, that, in many of these cases, remedies were administered during the application of electricity; and thus the reports of such lose a certain amount of their value: but in the majority of instances, the medicines administered contemporaneously with the application of electricity were confined to occasional mild purgatives. It is indeed notorious, that some medicines of this class often produce a considerable alleviation in the paroxysms of chorea, and occasionally are sufficient to cure the disease without the aid of other remedies; but, still, every practitioner must admit that this is not the constant result: and it must not be forgotten, that, in very many of the cases here related, every variety of treatment had been tried before the patients were admitted into the electrical room of the hospital. Dr. Bird adds:—

“In every case admitted into the electrical room, I have confined the treatment to sparks taken in the course of the spinal column every alternate day, for about five minutes each time, or until the papular eruption makes its appearance. I have very frequently found the disease to be somewhat increased on the first employment of the electricity, from the alarm of the patient; but this rapidly subsides; and in general, merely with the occasional administration of a purgative, the cases have rapidly progressed towards cure.”

Dr. Bird relates nine cases, and appends to them the following conclusions:—

“It may now be asked, in what light is electricity to be regarded, in the treatment of chorea, and certain involuntary motions of the voluntary muscles analogous to those occurring in this disease? From the results of the cases treated at Guy's Hospital, no doubt can remain, on the mind of any one, that electricity really exerts a decided, not to say specific, influence on these affections: and although, on its first application, all the symptoms often become increased, from, probably, the timidity of the patient, and the novel character of the remedy, yet, where it has been persevered in, in thirty-five of the thirty-six reported cases, it has either completely cured, or greatly relieved the patient: the case in which it failed, the 29th in the table, could scarcely be regarded as a fair one, as there

was but little doubt that disease of the membranes of the spinal cord existed. As I feel extremely unwilling to recognise the existence of more specific agents than necessary, I would venture to suggest that electric sparks, when drawn from the spine, may act by the irritation they produce : and this appears countenanced by the fact, that the rapidity with which the patient's symptoms are relieved is nearly in a ratio with the facility with which the peculiar papular eruption makes its appearance. If future experience should countenance this view, the remarkable influences exerted by electricity in the treatment of chorea may be referred to the principle of counter-irritation. It may next be inquired, whether, in the treatment of chorea, we ought to trust to electricity alone? In answer to this, it may be stated, that I have repeatedly treated severe cases of this disease successfully with this agent, without the administration of any medicine at all ; and in the majority of the thirty-six cases in the table, no internal medicine, except an occasional purgative, was administered during the electrical treatment. Still, it is obvious that, in many cases, the disease is kept up and excited by the irritation produced by some deranged function ; and this of course it will become the duty of the physician to set right, before or during the application of the electricity. The case of Eliza Raven affords an interesting illustration of this : here the chorea either depended, *ab initio*, upon the non-performance of the uterine functions, or was kept up by it ; and, accordingly, a few electric shocks through the pelvis, by restoring the deficient menstrual discharge, at once cured the patient."

PARALYSIS.

Paralytic affections constitute a prominent feature in the cases which have been referred to the electrical room of the hospital ; of these, forty-four cases have been fully reported by the clinical clerks, and may be found on record in the Hospital Books. Of these cases it may be generally remarked, that those in which the paralysis, whether of sensation or motion, or both, depended upon exposure to cold or rheumatism, upon some functional affection often of a local character, or upon the impression produced by effusion in some part of the cerebro-spinal centre, which had become absorbed under the influence of previous treatment, the result of the application of electricity was most successful ; whilst in those cases in which the paralysis depended upon some persistent structural lesion, whether produced by accident or otherwise, Dr. Bird has never seen the slightest benefit result.

The reported cases of paralysis may be divided into those of dropped hands, those of a rheumatic character, those depending upon some lesions of the cerebro-spinal centre, upon local injury applied to a limb, and upon hysteria. Of dropped hands there were eleven cases. Five were cured—three were relieved—one improved—and two experienced no relief.

In the treatment of these cases, electricity was generally employed in the form of sparks drawn from the upper part of the spine, so as to exert its influence over the origin of the spinal nerves forming the axillary plexus. In the majority of cases, medical treatment was also employed ; as, in general, the subjects of this particular disease are always deranged in health ; the functions of the digestive organs being imperfectly performed, especially as in most the patients had been previously the subjects of colica pictonum.

In cases where the general health was not much deranged, the use of electricity over the spine, and drawing a few sparks occasionally from the paralyzed extensor muscles of the wrist and hand, with the exhibition of an occasional laxative, was generally remarkably successful. But in those instances in which the patient was of cachectic habit, and the constitution deranged by previous or existing functional derangement of the digestive organs in particular, electricity was of no service, or, at most, of doubtful efficacy, until the deranged functions had been relieved by the remedial measures employed.

Dr. Bird relates four cases of paralysis of the extensors of the hand. An observation in connexion with such a case in a compositor deserves notice. The types are occasionally wetted, for the better distribution into their respective boxes. And if the damp types are imprudently exposed to the fire, for the purpose of drying, an empyreumatic acid matter appears on the surface of the types, and is probably absorbed by the compositor's fingers. If this very reprehensible and unnecessary drying is avoided, no injury arises from the use of types.

"In cases of the dropped hands of painters, the conditions before mentioned being borne in mind, the electric sparks drawn from the region of the cervical and dorsal vertebræ are generally efficacious in at least aiding, if not effecting, a recovery. I have generally, also, directed them to be drawn from the paralyzed parts; and, in recent cases, small shocks, transmitted along the course of the affected nerves, have considerably accelerated convalescence: but in chronic cases I have repeatedly seen a cure effected by drawing sparks from the spine, on alternate days, for weeks, after shocks had been passed along the paralyzed parts in vain."

Rheumatic Paralysis.—Cases of this affection, says Dr. Bird, are by no means unfrequent in practice, and are readily distinguished, on careful investigation, from those which depend upon cerebro-spinal lesion. The cases most readily confounded with them are those in which the legs or arms appear paralyzed, but in which the inability to move the limbs depends rather upon the pain produced by motion than upon any real want of power. The common history of these cases is, that a person after exposure to damp and cold, and sudden alterations of temperature, suffers from a slight febrile attack, followed by inability to move one or other of the limbs, and often a single leg or arm, if either of these have been exposed to the influence of a draught or current of air. In general, sensation remains either slightly or not at all impaired, but the paralysis of motion is generally tolerably perfect. This state may continue for an almost indefinite period; and at length, from want of exercise, the muscles of the affected limb become atrophied, and the chance of relief from treatment of any kind becomes proportionably diminished. In cases of this kind, before this wasting has occurred, the influence of electricity is very remarkable, frequently restoring power to the paralyzed muscles in a very short time.

We have a table of ten cases, and memoranda of four.

Paralysis from Affection of the Nervous Centres.—A considerable number of patients, labouring under various forms of paralysis, depending upon some functional or structural lesion of the great nervous centres, have been admitted under treatment at the electrical room. Of these, many were of that character in which no rational hope of relief could for a moment be entertained: of this class were those in which the paralysis depended upon some persistent lesion, as the pressure of an effused clot, of a tumor, or of bone on the surface of the brain or spinal marrow. And many of these cases, in which electricity afforded no relief, were subsequently submitted to post-mortem examination; and in all, the existence of some persistent cause of paralysis was distinctly made out. Dr. Bird has made out a table of 13 cases in which relief might fairly be expected. Of these, six were cured, two relieved, and five were not relieved. Seven of the cases are detailed. We quote one case—a striking one.

Case.—Stephen Burn, aged 11, admitted Jan. 15, 1840, into the hospital, under Dr. Addison, labouring under total loss of motion of the right leg and side, which appeared seven weeks previously, without any very apparent cause, whilst in bed. He has been gradually getting worse; and has been cupped, taken mercury, his head shaved, &c., without any marked benefit. He was carried from the ward into the electrical room, being quite unable to walk.

Sparks were freely drawn from the spine and affected limbs. The effect was remarkable; for the boy almost immediately recovered power over the previously paralyzed side, and he walked back into the ward with only the aid of a stick. After attending a few days longer, he was presented completely well.

Paralysis from Local Injury.—Several cases of paralysis of a single limb, or part of one, from local injury, have been submitted to the action of electricity. Four cases are alluded to—one, paralysis of the left arm from falling on it—the second, paralysis of the right arm from injury to the shoulder—the third, paralysis of the ankle joint from falling with the foot bent—the fourth, paralysis of the left arm from dislocated humerus. Of these cases, says Dr. Bird, it may be briefly observed, that in those in which there was evidence of positive structural lesion of one or other of the nervous trunks supplying the affected limb, no benefit resulted from the application of electricity; whilst, on the other hand, where the nerve had been left only functionally paralyzed, and its structure unaffected, an electric current produced rapid, and in some instances immediate, relief. Of the four cases inserted in the above Table, the third and fourth were instances in which there could be but little doubt that the nervous trunks were themselves mechanically injured: in the fourth case in particular, in which a man dislocated his humerus into the axilla from a fall, and it remained unreduced for seven weeks. On his admission into the hospital, under the care of Mr. Cock, the dislocation was reduced, but the arm was left in a partially-paralyzed state; the parts supplied by the internal cutaneous and median nerves being especially affected. In this case, as might be expected, electricity was found altogether useless, as there was reason to believe that some branches of the axillary plexus had become structurally injured by the pressure to which they had been subjected.

Two cases are related more in detail, but we need not introduce them. Dr. Bird goes on to remark—"In these curious cases of partial paralysis, in which we find the affection limited to a very small portion of a limb, often to a single muscle, I have found the application of electricity of considerable service; although, from the rarity of these cases, I have not had sufficient experience to allow me to offer any thing more than a very general opinion. In the few instances of this local paralysis that have fallen under my notice, the power of motion has been alone lost, sensation having continued tolerably perfect; and the local application of the current from the electro-magnetic machine has been generally successful: in addition to this local treatment, the general health of the patient has been attended to, by the administration of appropriate medicines, and a vigilant attention to diet."

The following case is not uninteresting:—

CASE.—Paralysis of Motion, limited to the Biceps Flexor Cubiti.—Dr. Bird was consulted in March, 1839, by a gentleman of about 40 years of age, of sedentary habits, for a loss of power in the left arm: he had considerable difficulty in flexing the limb, and was quite unable to raise the fore-arm to any considerable extent. On examining the limb, the belly of the biceps was found remarkably atrophied, being scarcely one third as much developed as in the corresponding muscle of the right arm; the brachialis anticus appeared not to participate in this change, at least to any considerable extent. Sensation appeared to be tolerably perfect in the affected muscle. The patient stated, that this loss of power had been insidiously coming on during some months, and could offer no probable explanation of its origin. Dr. B. fancied it might be attributable to exposure of the arm to a draught of air. The general health seemed good. Blistering over the biceps and strychnia were of no service, and electricity was resorted to. The patient provided himself with the electro-magnetic apparatus, and passed a current from the region of the cervical vertebræ to the belly of the muscle, daily:

this always produced violent contractions and spasmodic movements of the arm. By continuing this treatment during several weeks, power gradually returned to the muscle, and in the course of some months, he had as much power over the flexors of the fore-arm as ever.

"The cases here recorded are, I think, sufficient to justify the conclusions I have drawn of the value of electricity as a remedial agent in paralysis; and I have no hesitation in stating my conviction, that, in the majority of cases, a careful investigation into the history of the ailment will enable the practitioner to determine whether electricity will be of service in any particular case. Every one must be aware of the occurrence of cases in which paralysis generally affecting one side of the body, comes on as a mere effect of congestion or of effusion, which, under the action of depletion and mercury, can be completely removed; and yet the effect of such morbid action, the paralysis itself, remains. Cases of this kind will generally do well by time, aided by the application of friction, baths, exercise, &c.; yet convalescence will be extremely protracted. Here the passage of a few electric shocks through the limbs, so as to arouse, as it were, the dormant functions of the nerves, will at once frequently restore as complete power over the affected limb as the state of the muscles, weakened by previous disease, will admit of. Of this we have a remarkable instance in Case 22. When the paralysis has been of longer date, or the cause producing it of a more persistent character, it will be found necessary to continue the application of the electric shocks for a longer period of time. In these cases, it will generally be found more convenient to allow a rapid succession of shocks to pass through the paralyzed limbs, by means of the interrupted current from the electro-magnetic machine. Indeed, so far as my experience has extended, I am far more inclined to place reliance on the current of electricity yielded by this machine, than by that obtained by means of friction; as we have at our command an enormous quantity of electricity, of high tension: added to which, its application is much more convenient, and requires less tact than when the common electric machine is employed. The truth of the statement here made, of the class of cases of paralysis in which electricity may be employed with every probability of success, is supported by what we see in its employment in the local paralysis following the application of mechanical injury to a limb: for wherever the nervous trunks supplying a limb are lacerated, or otherwise mechanically injured, we can hold out no hope of relief from the application of electricity, or any other remedy; whilst in those (as Cases 25 and 26) in which, from the shock of the blow applied to the limb, the nervous trunks had been only functionally paralyzed, their structure remaining unaffected, the passage of the electric current affected a complete restoration of the previously deficient nervous power of the limb.

In accordance with this reasoning, we find those anomalous forms of paralysis connected with Hysteria generally yield to the application of a few electric shocks. I have, indeed, repeatedly seen hysteric paraplegia yield so rapidly to the effect of an electric shock, as strongly to impress those who were watching the case with a conviction that the whole disease was simulated."

And we have no doubt that simulation, or something not a hundred miles removed from it, has a great deal to do with many of these cases.

AMENORRHOEA.

"Scarcely any cases have been submitted to electrical treatment in which its sanatory influence has been so strongly marked as in those in which the menstrual function was deficient. The remarks previously made regarding the electrical treatment of chorea and paralysis alike apply to amenorrhœa: so long as the patient is seriously out of health, as when marked symptoms of chlorosis are present, scarcely the slightest benefit has ever resulted from the employment of

electricity: in fact, as this agent can in these cases be regarded but as a local stimulant applied to an organ whose function is deficient, we could hardly expect the menstrual discharge to appear, when, from the deranged state of the general health, the womb is not in a state to supply the deficient secretion. The rule for insuring success in the great mass of cases of amenorrhœa is sufficiently simple:—improve the general health by exercise and tonics; remove the accumulations often present in the bowels by appropriate purgatives; and then a few electric shocks, often a single one, will be sufficient to produce menstruation, and at once to restore the previously deficient function. It is for want of attending to this rule that so many cases have been said to have been unsuccessfully treated by electricity; and to this statement I must oppose all the experience acquired from the cases treated in the electrical-room of Guy's Hospital; for, with but one or two exceptions, every case in which the general health was not too severely deranged, as by chlorosis, has been successful; of course, not including those who, from timidity or other causes, never appeared but once or twice at the hospital."

Dr. Bird recommends the following method of applying the electric shocks.

Let the patient be placed on a chair or stool; press the brass knob of a director against the sacrum; and if the stays be loosened, to that only the linen intervenes between the latter and the knob, no further exposure is necessary. A second director, furnished with a chain connected with the outside of an electric jar, is passed by the female attendant under the patient's dress, and the knob pressed against the pubes. The jar is then charged; and its ball touched by a third director, connected with the one held against the sacrum by means of a chain. The shock thus passes through the patient's pelvis; and should be repeated ten or a dozen times. The jar employed should hold about a quart, and be about half charged.

A Table is given of 24 cases of amenorrhœa. Twenty were cured—four were not relieved. The latter patients were the subjects of well marked chlorosis, and of an irritable condition of the uterus. "In general," says Dr. B. "whenever the menstrual discharge has appeared under influence of the electric treatment, I have directed the remedy to be intermitted as soon as the flow has been fairly established, and its use to be recommended about a week before its expected return, as in Cases 33, 34. Whenever, as has occasionally occurred, the use of electricity has been persisted in during four or five weeks without benefit, I generally advise discontinuing it altogether; and by a careful investigation of the case, to ascertain, as far as is possible, the cause of the deranged general health, which always, so far as I have seen, exists in these unsuccessful cases: and after removing this by remedies directed to the particular functions involved, the use of electricity will then seldom fail to restore the catamenia, and thus effect the cure of the patient."

OTHER DISEASES.

The results, in these, have not been sufficiently uniform to warrant any trustworthy induction to be drawn. In amaurosis, especially, the results of the trials were too conflicting to afford any satisfactory conclusions: in the majority of instances, it certainly did no good: in a very few, it appeared to afford some relief; but in none did it effect any thing like a cure. In various cases of deafness the results of the application of electricity were similar. It is of course more than probable, that as amaurosis and deafness are in themselves but symptoms, various totally distinct affections of the eye and ear were submitted to treatment, and hence could afford no satisfactory conclusion.

In chronic rheumatism, especially in sciatica and lumbago, a considerable alleviation of suffering was frequently effected by drawing sparks from the seat of

pain; but the cases submitted to treatment have not been as yet sufficiently numerous to warrant any general conclusions. Dr. Bird has never seen it of the slightest benefit in ovarian dropsy.

Nor has he observed it to be serviceable in epilepsy—nor, indeed, in the treatment of convulsive affections in which the brain was involved, as in epilepsy; whilst, as already stated, in chorea, in which the brain is generally unaffected, the result of the application of electricity was most gratifying.

In hysteric epilepsy occurring in women in whom the uterine functions were suspended, electricity, by restoring the catamenia, was of material service: these can, however, be scarcely regarded as cases of genuine epilepsy, but rather of an hysteric convulsion, depending upon the non-performance of the uterine functions. Several cases of this description have occurred at the hospital. The following is an instance.

CASE.—Sarah Watson, aged 15, a stout girl, of remarkably dull appearance, states, that six months before admission into the hospital she was in possession of tolerably good health. At that time, however, she became the subject of fits of an epileptic character: these occurred at irregular intervals, and lasted each time about fifteen or twenty minutes. This girl has never menstruated; and she labours under the nervous feelings and headache, so frequent in amenorrhœa.

Oct. 10, 1839. Shocks through the pelvis, thrice a-week.

13. The shocks were passed this day for the second time, and in a short time were followed by pains referred to the back and loins: soon afterwards, the menstrual discharge appeared.

14. Catamenia continue flowing.

From this time she remained free from fits.

A very useful paper.

V. OBSERVATIONS ON REAL AND SUPPOSED PATHOLOGICAL CONDITIONS OF THE URINE. By G. O. REES, M.D.

In the Medical Gazette, Dr. Rees recently noticed a peculiarity in the urine passed by patients taking copaiba; such urine becoming coagulated on the addition of nitric acid, notwithstanding that no albumen was present. He has since found a very similar condition in the urine of persons taking cubeba.

The urine impregnated with copaiba always yielded a precipitate, on the addition of nitric acid: in some cases, this was very slight; but in the majority, very dense and white, and greatly resembling albumen. The action of the acid on urine impregnated with cubeba is precisely similar in character, excepting that the colour of the precipitate occasionally verges on a pale pink. Previous to his publishing the re-actions of copaiba, there was but one substance (albumen excepted) supposed to be precipitable from the urine by nitric acid: this was lithic acid, which, however, could not be regarded as a source of fallacy; as, when thus precipitated, it comes down only after the tested liquid has been allowed to stand some time, and then appears in a semi-crystalline form, and of a brownish-red colour. The precipitate afforded by cubeba and copaiba is, however, of that cloudy opaque character which simulates albumen, and moreover occurs immediately on adding the test.

It became an object now, to discover some simple method of discriminating between this precipitate and that obtained by nitric acid from albuminous urine. Fortunately, a very easy means of doing so is afforded us, by allowing the urine to which the acid has been added to remain at rest for an hour or two; when, should the precipitate consist of albumen, it will be found to have collected at the bottom of the tube, or to be arranged in flocculi through the liquor, the

greater part of which will appear clear. If, however, the precipitate be caused by the presence of a vegetable matter derived from *copaiba* or *cubebs*, the precipitate does not subside for several days; not, indeed, till decomposition has occurred. Another and more speedy method of discriminating between these two impregnations and albumen is by the use of the ferro-cyanuret of potassium as a precipitant, the urine being previously acidulated by acetic acid. If albumen now be present, it is immediately thrown down; but in the other cases, even if the acetic acid cause a slight turbidity, it is not increased by the addition of the ferro-cyanuret. It is interesting to observe how supposed exceptions to the law declared by Dr. Bright become explained away by advances in the chemical pathology of the urine; *copaiba*, for instance, has been stated to cause albuminous urine; and probably *cubebs* may also have been looked upon as capable of affording the symptom which Dr. Bright has regarded as characteristic of a peculiar morbid tendency in the kidney.

Dr. Rees dwells on the necessity for using both nitric acid and heat as a test for albumen. Yet the former may thus throw down a precipitate from vegetable matters not albuminous, and the latter may throw down the phosphates.

"I must mention, that the conditions I have noticed are not always to be expected, either in the case of *copaiba* or *cubebs*; appearing most strongly when the urine smells powerfully of the drug, and being scarcely perceptible when the characteristic balsamic odour is wanting. I have reason to believe, that when either *cubebs* or *copaiba* are administered with an alkali, that the urine becomes more rapidly and completely impregnated: but it is difficult to conceive what cause can be in operation to produce an occasional difference in this respect, the urine suddenly becoming (even when large doses of the medicine are being exhibited) comparatively free from impregnation."

Dr. Rees goes on to remark:—

"The frequent occurrence of the earthy phosphatic precipitate afforded by the action of heat on urine, and, consequently, the fallacious nature of the test by heat, may be better appreciated, if I now lay before the reader a statement drawn up from some valuable Tables which were formed by Dr. Barlow and Mr. Tweedie, at the suggestion of Dr. Bright. I find, by examining these Tables—in forming which, the tests both of heat and nitric acid were used to ascertain the presence of albumen—that in 482 cases, taken promiscuously from the hospital wards, 34, or about 7 per cent, were found which coagulated or became opalescent by heat, while they were not affected by nitric acid; these, therefore, were cases in which the phosphates were precipitated; and had heat alone been used as a test for albumen, we now observe how many errors must have been committed, and how many cases might have been cited as exceptions to Dr. Bright's law. Though well aware of the frequent occurrence of this source of fallacy, still I must say, I was scarcely prepared to find it in so large a proportion of cases as 7 per cent. In Tables constructed by Dr. Barlow, in which he examined the urine of 300 individuals, we find that 1 in 11 had albuminous urine: other tables make 1 in 6 as the proportion; the former being about 9, and the latter nearly 17 per cent. This shews how impossible it is to arrive at a satisfactory approximation to the truth by the use of the test by boiling alone: for among 100 persons, 16 might be declared to have albuminous urine; and of these, only 9 might present the degeneration of kidney on post-mortem examination, the 7 cases opposing the general truth which the observer was seeking to confirm."

Dr. Rees thinks it may be concluded that the phosphates are apt to be precipitated from urine, on the application of heat, in patients of a cachectic habit, and in those worn by disease and suffering. The specific gravity of such urine is often as low as 1010 and 1012: though this is not always the case, as we sometimes find it natural, viz. from 1017 to 1022.

Dr. Rees has also examined into the assertion that patients in a state of sali-

vation present albuminous urine. Mr. D. Francis has constructed a Table of 15 cases of salivation.

Dr. Rees adds:—

“From these observations we may safely conclude that mercury does not always produce albuminous urine: and though we cannot say, from these few instances, that it never is a cause of the existence of that principle in the excretion, yet these cases may serve to warn the reader from depending too much upon loose assertions. I have myself observed that, urine containing albumen sometimes becomes freed from that substance by exhibiting mercury to the patient. Mr. Francis, during his late inquiries, met with such a case: and I quote the following from a note I received from him.

‘The other case was one of albuminous urine. The patient was salivated: and whilst under the mercurial influence, the albumen entirely disappeared.’”

VI. SOME OBSERVATIONS ON STRICTURE OF THE URETHRA, CATHERISM, AND FALSE PASSAGE: FOUNDED ON POST-MORTEM INSPECTIONS. By EDWARD COCK.

The object of Mr. Cock is to shew how much violence and how much injury is daily done to the urethra by the forcible introduction of instruments. Of this there cannot be a doubt. False passages are continually made—great irritation is set up in the whole line of the urinary canal—perineal abscesses, or even serious extravasation of urine, are the consequences—and a life of suffering, or a premature death, are the effects of a want of knowledge, dexterity, or patience, in the surgeon.

Mr. Cock shews, by cases, that the canal is constantly damaged, even when the instrument is got into the bladder—how much more so when it is not. “The surgeon,” he observes, “when applied to in a case of difficult micturition or complete retention, congratulates himself and his patient on having succeeded in passing a catheter through a canal which, perhaps for months previously, has only allowed the escape of a slender thread-like stream, or possibly a mere dribble: he is said to have expanded the stricture. Sometimes the introduction is accomplished at the expense of much bloodshed: he is then said to have broken down the stricture: by which, I suppose, is meant the tearing down one side of the wall forming the narrowed portion of the canal, and thus laying it open, as it were, into the track of the instrument. The main object, however, has been accomplished; the catheter has entered the bladder; and the satisfaction experienced by the patient and the operator may probably render the latter unwilling to investigate the exact manner in which his success has been brought about. Nevertheless, the moderate permanent good, and the frequent mischief, which result from the passage of instruments, even where we have succeeded in entering the bladder—the scalding pain and rigors which accompany and follow micturition—and the not unfrequent occurrence of perineal abscess resulting from the passage of a catheter—must, upon reflection, lead us to the opinion that the instrument has overcome the difficulty in a manner different from that which we had contemplated.”

Mr. Cock lays before us some cases which have occurred only during the last twelve months. They are not picked cases of false passage, but comprise all the instances in which death occurred, from different causes, shortly after the introduction of a catheter *into the bladder*, where he could make a post-mortem examination. These cases we shall abbreviate.

Case 1.—A. D. aged 60, died of suppuration round the hip-joint. About a fortnight before his death, an abscess formed in the perinæum, which was opened, and discharged a quantity of fetid pus mixed with urine. It was then

ascertained that he had laboured under stricture for many years, voiding his water by dribblets. He now passed his urine freely through the wound in the perinæum; but in a few days' time, as he appeared to be again suffering from retention, a small catheter was introduced into the urethra, and passed without much apparent difficulty into the bladder, when a considerable quantity of water was drawn off. The silver catheter was replaced by an elastic one, which he wore until his death. On laying open the urethra, it was found contracted opposite the bulb, to the extent of about two lines. A small probe could not be passed through the stricture, even under the application of considerable pressure; but a punctum probe passed readily. Immediately behind the stricture was an ulcerated opening, communicating with the perinæal abscess. The catheter had penetrated the walls of the urethra just anterior to the stricture, and formed a false passage along the upper part of the canal, merely separated from it by the lining membrane, until it entered the bladder above the prostate.

Case 2.—W. B. died from the effects of retention, followed by extensive extravasation and sloughing, extending through the perinæum and scrotum, and over the abdomen. Some days before his death, a sound was passed into his bladder. A firm cartilaginous stricture, which would just allow the passage of a probe, existed in the membranous portion of the urethra, behind which the canal was dilated into a pouch. The sound had evidently passed through the walls of the urethra anteriorly to the obstruction; but in what manner it had entered the bladder could not be ascertained, in consequence of the diseased condition of the parts.

Case 3.—W. C., aged 53. The urethra opposite the bulb was found nearly obliterated by a stricture, surrounded by extensive induration: behind it the canal was perforated by an ulcerated opening, through which the urine had escaped, and produced the extravasation. The instruments which had been introduced had left the urethra anterior to the stricture, had apparently passed through the softened and broken-down structures, and had re-entered the canal close to the prostate.

Case 4.—G. L., aged 71. A moderate-sized catheter was passed, his urine was drawn off, and the instrument was allowed to remain in the bladder for three days, when it was withdrawn; and he subsequently got rid of his water in a small stream by natural efforts. At the post-mortem inspection, the urethra was found relaxed and flabby, but capacious as far as the membranous portion, where it suddenly became contracted for a couple of lines, so as just to admit the passage of a sound, No. 3. The catheter which had been introduced had not penetrated the stricture, but had passed by the side of it, and been carried between the canal and the pubes until it penetrated the upper part of the prostate, and entered the bladder just above the natural entrance to the urethra. The track of the instrument presented an ulcerating and sloughy surface, but no extravasation had taken place; and as, after the withdrawal of the catheter, he experienced no pain during micturition, it is probable that he continued to pass his water through the natural canal, and not through the false passage.

Case 5.—T. C., aged 67. The urethra was very capacious, except just beyond the commencement of the membranous portion, where a stricture existed, probably of long standing. The contraction was about two lines in extent, and just large enough to admit the smallest-sized catheter. There were two false passages, evidently of recent formation, through which his water had been drawn off since the first introduction of the catheter; for it was manifest that the strictured portion of the canal, which was surrounded by a slight induration, had never been entered, being far too small to allow the passage of the instru-

ments which were used, and bearing no marks of having been dilated or passed through. The one false passage left the urethra about one inch and a half anterior to the stricture, to the left and upper part of the canal; passed just above the urethra for about three inches; and entered the upper wall of its prostatic portion. The other false passage left the urethra immediately anterior to the stricture, through a lacerated opening at the right and lower side of the canal; and re-entered the urethra close to the bladder, by piercing the prostate on the right side of the *veru-montanum*. A communication existed between these two false passages about the middle of their course, as if the catheter had been occasionally passed from one into the other. Thus there were four ways of entering the bladder, besides the right one.

Case 6.—"J. H., aged 60, died of ascites, for which he had several times been tapped. On the last occasion, previous to introducing the trochar, I attempted to pass a catheter; as he informed me he had long laboured under difficulty in voiding his urine. I found a stricture which I was unable to penetrate, and desisted from the attempt. On examination after death, I exposed a contraction of the urethra just opposite the bulb; and endeavoured to dilate it, first with a moderate-sized catheter, and afterwards successively with smaller ones, but found that the application of considerable force was insufficient to expand and penetrate the stricture. It allowed the passage of a large probe."

Mr. Cock remarks that this last case illustrates the physical difficulty, in many instances the impossibility, of overcoming an organic contraction of the canal by the mere application of temporary pressure. An old stricture cannot be taken by storm, and will not allow the passage of an instrument larger than the opening itself.

Mr. Cock offers a few suggestions.

The habitual size of the stream by which the patient voids his urine, and the effort and straining he is obliged to employ to get rid of it, are the best, and, in fact, the only means we possess, for arriving at an estimate of the dimensions of the strictured portion of the canal. In most instances, the longer the stricture has existed without proper remedial treatment, the firmer and more unyielding it will be found. This is the common sense view which we always act on, and which we believe to be the safest we can take.

Mr. Cock remarks that, in the ordinary directions for the introduction of a catheter, considerable stress is deservedly laid on the necessity for keeping the point of the instrument in the direct line of the canal: but we must not be too confident, that a strict observance of this rule will prevent us from occasionally eluding the stricture, and making a false passage into the bladder; as probably no appreciable difference will be recognised in the position of the instrument, whether it remains in the urethra, or is carried on just outside the membrane lining the canal. This we conceive is borne out by every practical surgeon's experience. However correct the position and destination of the instrument may seem, it may perforate the walls of the urethra notwithstanding.

After a catheter, continues Mr. C., has been successfully introduced into the bladder, it may often be a matter of some difficulty to determine, whether the object has been effected by carrying the instrument through the stricture, or opening a passage by the side of it. The condition of the patient subsequent to the introduction may assist us in arriving at an opinion. When, owing to the situation of the obstruction, a fortunate manipulation, or any other favourable circumstances, we have been enabled to introduce, without violence, without pain or loss of blood, a small catheter, which is suffered to remain for a longer or shorter period of time, we shall almost invariably find that the symptoms have undergone a material alleviation; that he passes his water in a larger stream with less difficulty and straining, and that the canal is in a condition to allow of a still further dila-

tation; in fact, that we have accomplished the first important step towards a progressively successful cure. On the other hand, our anticipations of a favourable change will generally be disappointed when the instrument has eluded the stricture instead of penetrating it. The introduction itself has probably been effected with some degree of violence, and is attended with pain and loss of blood. After the withdrawal of the instrument, the false passage may immediately close up, and the patient then remains in his previous condition; or the water may find its way in a reluctant stream through the new canal, accompanied by much smarting and irritation, and followed by rigors and constitutional disturbance: or a partial infiltration may, perhaps, take place, ending in the formation of a perineal abscess. The catheter is introduced again and again, with similar results; until it is found advisable to suspend the mode of treatment, or, under more favourable circumstances, until the new line of road becomes sufficiently worn and polished by the instrument to take upon itself the functions of a urinary canal. We have no doubt that the rigors, &c. which have been regarded as almost natural consequences of the introduction of instruments, are, in many instances, at all events, the result of their too forcible employment.

"The opinion has been advanced and maintained, that a new canal may be established with impunity; that it becomes lined by mucous membrane, and for the future answers the purpose of a water-course to the individual, while the old channel becomes abandoned and filled up. I do not intend to deny that such a desirable consummation may occasionally take place; but the observations I have been enabled to make on the subject incline me to believe that the result of an 'error loci,' on the part of the surgeon, is more frequently disastrous than favourable to his patient.

The mischievous consequences which are likely to ensue after a false passage has been made into the bladder may depend on its situation, its extent, or the degree of injury which has been inflicted on the surrounding textures, and on the constitutional irritability of the patient. In some cases, as I have already stated, a short artificial canal may be effectually established by the side of the stricture, and the condition of the patient permanently benefited by this diversion of the natural course of the urethra. In other instances, the new passage remains open only so long as an instrument is retained in it; or it may continue pervious for a certain time, and allow the urine to flow through it until the vis medicatrix naturæ has gradually healed the wound inflicted by the surgeon; and then the old canal, including the stricture, is again brought into use;—the patient, of course, relapsing into his original condition, the difficulties of which induced him to seek advice and assistance. I believe that the train of events which I have just described not unfrequently occurs; and the unsatisfactory result is generally attributed to a tendency in the urethra to *resume* its originally contracted state; whereas, in all probability, the stricture, which is thus said to have become re-established, had never been at any time removed or dilated by the introduction of an instrument.

Some instances have come under my observation, of persons who had undergone a previous course of catheterism for the relief of retention and the cure of obstinate stricture; and who, as far as could be ascertained from the account which they gave, from a careful examination, and from the symptoms manifested, had apparently lost, by obliteration, a considerable portion of the urethra including the stricture; and acquired a new passage, in no way better adapted for the purposes of micturition. The walls of the canal were irregular and granular, furnishing a copious purulent secretion, and exquisitely tender and irritable. The urine was voided with difficulty and pain; violent spasms frequently induced; and the life of the individual rendered one of misery and apprehension, by repeated attacks of retention of longer or shorter duration. The disposition of the canal to close rendered the use of the catheter frequently necessary; and

the introduction of the instrument, which could only be effected at the expense of great suffering, afforded but a temporary relief. Such a condition of parts hardly admits of any permanent alleviation, and gradually undermines the health of the patient; inducing disease of the bladder and kidneys, by which he is finally destroyed."

Mr. Cock concludes with two cases in point.

VII. CURSORY OBSERVATIONS ON SOME CEREBRAL AFFECTIONS OF CHILDREN. Read before the Physical Society of Guy's Hospital. By H. MARSHALL HUGHES, M.D.

Dr. Hughes first adverts to "Infantile Remittent Fever," which, he thinks might be more correctly designated—"irritative fever of children." After a slight sketch of the symptoms and some judicious observations on the treatment, Dr. Hughes goes on to say,—but in the course of this affection—which, by a high authority, has been mentioned as "remarkable for being always devoid of danger," and under circumstances undistinguishable from those accompanying the ordinary form of the complaint—the physician is not very unfrequently informed that his patient has been suddenly seized during the night with violent pain of the head, screaming, and convulsions; and, in the morning, finds it labouring under sufficiently-marked symptoms of arachnitis; as severe pain of the forehead, heat of the scalp, intolerance of light, contracted pupils, vomiting, a bounding but perhaps not very frequent pulse, and other indications of cerebral excitement, which need not be enumerated. He is then led to doubt if he may not previously have mistaken the nature of the case; and whether, from its commencement, it may not have been one of slowly progressive meningitis or hydrocephalus. He thenceforth directs his principal attention to the brain: bleeds, leeches, and purges; applies blisters, and administers calomel assiduously; but too often without any permanent benefit. The disease, after many fallacious appearances of amendment, passes on to effusion into the ventricles, from which the patient dies; and, on examination after death, are discovered the ordinary consequences of inflammation of the brain or its membranes.

Dr. Hughes relates three cases which it is unnecessary to insert, and contrasts them with two other cases of pure inflammatory affection of the brain and its membranes. Dr. Hughes contrasts two descriptions by two authors—one of acute hydrocephalus—the other of infantile remittent fever; and although the liability of the diseases being confounded is not dwelt on by those authors, the descriptions of the two disorders are wonderfully alike. Dr. Hughes then observes—

"Certain questions then arise, to which I am anxious of directing the especial attention of the Society; and the correct decision of which is most important. Are the two or three cases which I first mentioned, and all cases of a similar character, examples of simple remittent fever, in the course of which arise symptoms of arachnitis; or are they, *ab initio*, cases of slowly progressive inflammation of the membranes or substance of the brain? If the latter is the correct view of their pathology, it may be asked, How are they to be distinguished from ordinary cases of remittent fever? Or if the former is regarded as the more probable opinion, it may be again inquired, At what point does the fearful complication commence? or what are the first indications of incipient meningitis?"

What then, he adds, are the diagnostic marks of the two diseases, in their earlier stages? Upon the appearance of what symptoms are we justified in assuming the existence of, and adopting the active treatment necessary to subdue, the inflammatory, during the course of the febrile complaint? He conceives

that the undoubted difficulty of the answer may be diminished by the following considerations.

In the first stage of acute hydrocephalus, there generally exist some intolerance of light and sound, contracted pupils, and wakefulness by night and by day; while in remittent fever, the patient, though restless at night, often sleeps soundly and comfortably during the day, the pupils are rather dilated, and light and sound are not complained of. The pain of the head in the latter affection is rather a general uneasiness, giving the child an expression of heaviness and languor, and, like the febrile symptoms themselves, is distinctly remittent: in the former, it is almost always referred to the forehead, and, though increased in severe paroxysms, is constant. The child suffering from acute hydrocephalus lays its head heavily on the pillow, with closed eyes, and appears unwilling to be moved, questioned, or noticed; unconsciously moves its hands up to or over its head; and often screams and starts, from severe accessions of pain; while its arms or legs are affected with slight spasmodic twitchings. That affected with the remittent fever, on the other hand, is usually easily and not unwillingly roused: and though fractious and petulant, has not violent fits of screaming; moves its head without inconvenience; and, while awake, is almost always occupied in picking its lips or nose. The bowels are sometimes constipated in both complaints; but they are more easily moved, and, when moved, are more easily kept in a relaxed condition; and the motions are more slimy, fetid, and dark-coloured, in the simply febrile than in the inflammatory complaint. The pulse also, which in the fever is almost always sharp and frequent, is, in the more grave affection, often sluggish, tardy, and irregular.

We fear these diagnostic signs must be taken with some degree of hesitation. But to proceed. Dr. Hughes passes to the complaint first described by Dr. Marshall Hall as a "hydrencephaloid affection of infants," and subsequently noticed by Dr. Abercrombie and by Dr. Gooch. We are tempted, for the matter is a most important one, to subjoin Dr. Hughes's description.

The child is weak, pale, and emaciated; and its flesh loose and flabby: its head is in reality, or from wasting of the face and neck is in appearance, large; it is laid listlessly on its mother's breast or lap, and is raised with difficulty and evident reluctance by the little patient, who is peevish and querulous when disturbed from its languid doze, and soon returns to the position from which it was moved: the features are contracted; the expression faint and distressed; the skin of the face pale, dingy, and wrinkled; it is reported to be constantly disposed to sleep; the pupils are dilated and sluggish: the fontanelles, perhaps, large for the age; the extremities, and general surface, cool; but the head not unfrequently rather hot, especially in occasional flushes; the bowels are relaxed; the evacuations green and slimy; and the stomach often so irritable, as to reject almost every thing introduced into it: the tongue is rather furred, but pale and moist; and the pulse very frequent, and very weak.

In these cases, it will usually be found, upon inquiry, that the child has been ill for some time—rarely for less than a week or ten days,—and that it has previously suffered from symptoms of remittent fever; that it has been prescribed for, by a druggist, or by some medical gentleman who did not see it, and whose view of the nature of the case, and of the remedies necessary to be employed, has been derived from the statement of the mother or nurse; and that these remedies have consisted of leeches to the temples, and purgatives. The symptoms may have previously resembled those of remittent fever; they now are very similar to those of the advanced stages of hydrocephalus. From the previous progress of the disease not having been seen, as well as from the constantly reiterated statement of the mother, that the "complaint lies all in the head,"—to which she perversely adheres, as if for the very purpose of deceiving,—the diagnosis of this affection is often a matter of considerable difficulty.

Dr. Hughes adds, after again admitting the difficulty of accurate diagnosis—This “must be principally derived from, and the treatment essentially founded upon, the history of the case, and the effects of remedies previously administered. For this purpose, the mother must be carefully interrogated, as to the first symptoms, and the progress of the complaint;—whether it commenced with relaxation of the bowels, or indications of inflamed brain;—whether the effects of leeches and purgatives, most probably previously used with incautious freedom, have appeared to be beneficial or deleterious;—and whether the bowels have, or have not, been relaxed, with or without medicine, during the entire course of the disorder. I dwell particularly upon this circumstance, because my own experience leads me entirely to concur in the opinion expressed by Dr. Marshall Hall, that the disease almost universally results from relaxation of the bowels; and because the answers to these inquiries have often relieved my own hesitation, and have directed me to a safe and successful plan of treatment. If then, upon investigation, it be found that the complaint originated in disorder of the bowels—if purging has continued more or less throughout its whole progress, and the head has become only secondarily affected—if, after the application of leeches, the cerebral symptoms have increased rather than diminished, and purgative medicines have aggravated rather than mitigated the disease—I believe, as I have ever found, that stimulants and astringents, with good, wholesome, and nutritious diet, freely and frequently administered, will very speedily remove the worst features of the complaint; and that leeches, purgatives, and mercury, must be immediately and entirely discarded.

It must however be recollected, that venous congestion and serous effusion, with their common indications—somnia, coma, heavy and even stertorous breathing—may really appear in the last stages of this affection; that they succeed, as the ordinary and perhaps inevitable consequences of extreme exhaustion; and that, with the questionable addition of a blister to the nape of the neck, they can be advantageously and consistently met only by the speedy administration of such measures as are calculated to remove their cause.”

VIII. ON THE EXISTENCE OF ARSENIC AS A NATURAL CONSTITUENT OF HUMAN BONES. By G. O. REES, M.D.

It is well known that M. Orfila has announced the presence of arsenic in human bones and muscles. This is, of course, a most important fact, if it be a fact, and one which would be used with great effect in courts of justice. It is of the first consequence, then, to test its accuracy.

Dr. Rees has carefully repeated M. Orfila's experiments, and added others of his own. They have not corroborated M. Orfila's statements. On the contrary, Dr. Rees has been unable to obtain any arsenic at all. He sums up thus the conclusions which he draws from the experiments in question:—

It appears, that on a careful repetition of the experiments of M. Orfila, with larger quantities of bone-ash; with sulphuric acid, of which the purity was previously ascertained—not by the analysis of a small quantity merely, but by the examination of the whole quantity subsequently employed in the experiment—moreover, by the application both of the test upon which M. Orfila himself places implicit reliance, and of a test which has been shewn to be still more delicate in its indications—with all these precautions, and under circumstances the most favourable for the detection of arsenic had it really existed in bone-ash, a negative result has been obtained.

IX. OBSERVATIONS ON THE ABSORPTION OF METALS INTO THE BLOOD, IN CASES OF POISONING. Illustrated by an Account of a Case of Poison-

ing by Lead, occurring in a Cow under the care of Mr. Cherry, Veterinary Surgeon to the Coldstream Guards. By ALFRED S. TAYLOR.

M. Orfila has detected arsenic in the blood of persons poisoned by arsenious acid, both during life and after death—and in the urine and the viscera. Antimony he has detected in the urine and in the substance of the viscera, more particularly the non-secreting organs—and copper has been found in the viscera of animals only.

Lead.—Mr. Taylor is not aware of any instance of lead-poisoning in which the metal has been found in the blood. A singular case of accidental lead poisoning in an animal, gave Mr. Taylor an opportunity of examining one of the secretions.

Not long since, a cow, belonging to Mr. Harrison, the Treasurer of the Hospital, swallowed a quantity of carbonate of lead, which had been mixed for paint. It appears that some painters had carelessly left the pot containing the paint within reach of the animal. The cow overturned the vessel, and lapped up the contents, amounting, it is supposed, to half-a-pound of dark-green paint. Some time afterwards, the cow was seen, apparently in a state of great suffering, resting, in a contracted posture, with its horns fixed against a wall. There was obstinate constipation; and on the 8th day, general paralysis of the trunk and limbs, so that the animal could scarcely stand. Mr. Cherry exhibited large doses of sulphate of magnesia, and, occasionally, carbonate of ammonia and oil of turpentine; and at the end of a week, Mr. Harrison having applied to Mr. Taylor on the subject, he suggested that large doses of sulphate of soda should be administered, which was readily acquiesced in by Mr. Cherry. This was advised, not so much with the view of the salt acting as a chemical antidote (although commonly employed as such in lead-poisoning), as with the idea of its expelling the poison from the bowels, by its well-known purgative properties. The sulphate of soda was accordingly given in large quantity, dissolved in water; and, apparently, with some good effect. The animal recovered slowly from the action of the poison, and was not perfectly well till the end of ten weeks.

It ought, perhaps, to be mentioned, that at the time of the accident, the cow was rather more than two months gone with calf; and that after three weeks she slunk her calf, which shewed no signs of decomposition, and was of full size for a foetal calf of that age.

Soon after the animal had taken the poison, and while still labouring under its effects, a quart of milk, drawn from it, was sent to me for chemical examination. It possessed all the properties of rich milk, with an abundance of cream. About an ounce of the milk, deprived of cream, was treated with the hydrosulphuret of ammonia; but this gave no satisfactory indication of lead. Sulphuretted hydrogen gas was then used in its pure state, but without any apparent effect. Judging from these results, that if lead were present in this secretion it could be only in a very minute proportion, Mr. Taylor passed the gas into about ten ounces of the milk; when, after a short time, the whole liquid began to acquire a faint-brown colour. It was allowed to stand some hours; when a black flaky precipitate collected at the bottom of the vessel; but in so small a proportion, that it was impossible to verify its nature by resorting to any of the usual tests for sulphuret of lead. Mr. T. thought it right, however, to perform some comparative experiments on the milk of other cows; and, accordingly, two different specimens were taken, in equal quantities, and treated in a similar way. Sulphuretted hydrogen had no effect whatever in these cases, although the gas was passed in for some hours. On adding a very small portion of a diluted solution of a salt of lead to another quantity of milk, the effect produced by the gas was precisely similar to that witnessed in the case under investigation.

Mr. Taylor adds :—

"These results, affirmative and negative, left no doubt in my mind, that some traces of lead were present in the milk, but in what state it is impossible to say. Admitting its presence in this secretion, it follows, that it must have found its way into the blood by absorption. The quantity present must have been infinitesimally small, since the test was evidently near the limits of its action. The sulphuretted hydrogen gas is said to have the property of indicating the presence of a salt of lead when the latter forms not more than the 300,000th part of a solution. Allowing this to be the case, and judging from a comparative experiment, it appears to me that it cannot be far from the truth to state, that the quantity of the salt of lead contained in the poisoned milk did not exceed the 200,000th part of the weight of the liquid."

X. CASES OF INCISED WOUND OF THE KNEE-JOINT, OF FLUID IN THE THYROID BODY, AND OF ABNORMAL THYMUS GLAND.

1.—*A Case of Incised Wound of the Knee-Joint. By Henry Elston, Esq.*

William Wainwright, of Rainford, aged 45, of muscular make, was, about half-past twelve o'clock on the morning of the 7th of August 1839, proceeding home with a scythe on his shoulder, the blade downwards; and, by some accident, drew it across his knee, and cut deeply into the joint. The knee being flexed, he divided the ligamentum patellæ, and cut off portions of the patella, of the inner condyle of the femur, and of the corresponding condyle of the tibia. These pieces of bone were found on the ground, after he was taken up from the spot where the accident happened, and where he had lain upwards of two hours, on a most tempestuous night. There was very little hæmorrhage, although the wound extended from the inner to the outer condyle of the knee, so that he had nearly amputated the limb. Mr. Elston and Mr. Casey determined, in consultation, very judiciously, to try for union by the first intention. The lips of the wound were, therefore, brought in apposition by the usual sutures, and strips of adhesive plaster, as in the case of an amputated thigh; covering over this dressing with folded linen, wetted in the saturnine lotion. The lotion was continued for a week, to prevent inflammation: suppuration came on about the third or fourth day, but not to any great extent. The limb was, of course, placed in a straight position, and kept so for at least three weeks. No untoward symptom presenting itself, and no treatment being required but the ordinary one in such cases, the patient perfectly recovered, completely regained all the motions of the joint, and was able to follow his usual employment as an active farmer.

This case is possessed of much practical interest. The danger of free wounds into joints has probably been overrated. It is when matter is locked up that they are so very formidable.

2.—*Collection of Fluid in the Right Lobe of the Thyroid Body. By J. Massey, Esq.*

A man aged 30, had, for five years, an enlargement of the right lobe of the thyroid gland. He used iodine for three months. In October of last year the following was its and his state:—The tumor is situated over the right side of the thyroid cartilage, extending a little above, and for some inches below it, the longest diameter being obliquely from before backwards, passing under the sterno-mastoid muscle externally. There is no pain on pressure; nor does he complain, except from its inconvenience in size: the measure round the neck, over its most prominent part, is eighteen inches. There is evident fluctuation, which is most apparent at its anterior and inferior surface; here it is more prominent than elsewhere. There is also a pulsation communicated throughout its extent, from its contiguity to the carotid artery. Complexion sallow, and con-

junctivæ yellowish—bowels costive—urine high-coloured—wheezing respiration—little cough—vertigo—palpitations—tending to perspirations. Iodine treatment continued till November 27, 1840, when Mr. Massey introduced an exploration needle at the point where the fluctuation was most evident, and evacuated by it about five ounces of fluid, having the appearance of very thin bile, of an olive-brown colour, with an oily crystalline deposit on its surface: this almost completely reduced it to its natural size.

The fluid re-accumulated, when Mr. M. made an opening into the sac, four or five inches in extent, by means of a sharp-pointed bistoury, and evacuated at least five ounces of the same kind of fluid as before: (this was the second fluid, *vide* Analysis; in which was a quantity of blood, escaping from the incision made in the sac and the adjacent parts, which was not in the first quantity, taken Nov. 27). The finger, introduced into the sac, could be passed above the thyroid cartilage, and downwards very nearly to the sternum, and outwards under the sterno-mastoid muscle. The thyroid body was converted into a large cyst, containing the fluid: a pledget of lint was introduced into it, and secured by adhesive straps. A very small quantity of blood was afterwards taken from his arm, for analysis.

The discharge was free, for some time offensive, afterwards purulent. An injection of iodine of the following strength was employed.

Potassæ Hydriodatis \mathfrak{D} l. Iodini gr. iii. Aquæ distillatæ \mathfrak{z} xvi. m. fiat inject.

A temporary augmentation of the discharge occurred subsequently from cold, but it subsided, and on the 19th Jan. 1841, he is reported as very nearly cured.

The following are the analyses of the fluid as it was withdrawn on the two occasions :—

FIRST PORTION OF FLUID REMOVED NOV. 27.

Slightly Alkaline. Specific Gravity 1.0242.

COMPOSITION.

Water	905.140
Mucus	19.830
Albumen	5.210
Gelatine	11.100
Albumen combined with soda	8.350
Cholesterine	10.640
Oily matter	5.200
Colouring matter soluble in water and alcohol	8.250
Biliary matter	9.730
Chlorides of sodium and potassium	6.210
Carbonates of lime and soda	4.380
Iron .. .. .	.250
Loss	5.710
	<hr/>
	1000.000

SECOND PORTION OF FLUID, REMOVED DEC. 4.

Alkaline, and containing Hydrosulphuret of Ammonia. Specific Gravity 1.0356.

COMPOSITION.

Water	896.310
Mucus	34.270
Albuminate of soda	7.920
Fibrine	1.840
Cholesterine	9.560
Colouring matter soluble in water and alcohol	16.340
Gelatine	10.830

Resin, not affected by nitric or muriatic acids	5.820
Chlorides of sodium and potassium	7.460
Phosphates of lime and soda	3.210
Iron, a trace	
Loss	6.440
	<hr/>
	1000,000

It is probable, as Mr. Massey remarks, that the enlargement of this body primarily consisted in a derangement of its cellular structure, with an increased and vitiated exhalation into the cells, and their subsequent partial or general dilatation and thickening: the previous morbid exciting cause still continuing, an increased secretion into the cells, with their further dilatation and rupture, was the result; so that the lobular structure of this body, in consequence of the additional accumulation, ultimately became converted into a large sac, which contained the adventitious fluid.

XI. CASE OF BONE PASSED FROM THE URETHRA.

J. H. aged 45, a patient of Mr. Balderson, of Poland Street, of active habits and irritable temperament, had been subject to stricture in his urethra for a considerable length of time, which was always relieved by the introduction of an instrument. He was in the habit of having a bougie introduced about every three months: but even when performed with the greatest degree of gentleness, he complained of a tightness at the strictured part, and pain upon the instrument entering the bladder. At the beginning of the present year, he called on Mr. Balderson, to have the bougie introduced; and as the inconvenience he always suffered was foreseen, he was strongly recommended to place himself for a few hours, in a recumbent posture: but instead of doing so, he walked as quickly as possible from the neighbourhood of Golden Square to Drury Lane; and having occasion to empty his bladder, he found that more than ordinary exertion was requisite to relieve himself, and a free discharge of venous blood followed. Of this he took no notice: but on the 9th of February, after having attended market, he found that he was compelled every ten minutes to evacuate his bladder; and each time the water was tinged with blood, and a few drops of pure arterial blood followed, producing excruciating pain. He remained in this state during the day; and in the evening sent for Mr. Balderson, who found him with a pallid countenance, a quick and irritable pulse, a coldness of extremities, and he had had shivering. Upon inquiry, it was ascertained that about three weeks previously having slipped off the curb-stone, he had two days afterwards passed blood by the rectum, which he attributed to hæmorrhoids, to which he was occasionally subject. He was sent to bed, and ordered calomel and opium, &c.

He passed a bad night, from frequent desire to make water, with pain in the region of the bladder, which seemed distended with blood. The symptoms increased, in spite of fomentations and opiates, and Mr. Bransby Cooper saw the case in consultation with Mr. Balderson. He prescribed leeches on the perineum and a bladder of ice between the thighs. The patient, however, remained much the same until the 19th, when he shewed Mr. Balderson a substance resembling a fish-bone which he had passed with excessive pain, during the night, through the urethra. The blood gradually ceased, and he was enabled to resume his occupation.

Whether the bone, which caused this patient's complaint, was swallowed with his food, and passed from the rectum to the urethra, or whether it reached that situation in some other way, remains uncertain: that the little substance is really

a bone, is evinced by its form, by its cancellated appearance under the microscope, and by its chemical analysis.

XII. DEFICIENCY OF THE PECTORAL MUSCLES.

A convict, aged 27, was dissected in the Session 1840—1 in Guy's Hospital. Setting aside some other appearances, it was observed that,—

On reflecting the integuments from the anterior parietes of the chest, the ribs, intercostal muscles, and the cavity of the axilla, were at once exposed. The whole of the sternal and costal portions of the pectoralis-major muscle were deficient: but its clavicular origin quite normal: this latter was thick and fleshy, and passed downwards and outwards, to be inserted, by a thin, broad tendon, into the outer edge of the bicipital groove, to the same extent as usual.

The pectoralis-minor muscle was wholly absent; not a vestige of it to be seen.

The serratus-magnus muscle was also, for the most part, deficient, its two superior digitations only being present; arising, as two short, thick, and fleshy heads, from the first and second ribs: these immediately united, and passed to be inserted fleshy into the superior angle of the scapula, in front of the levator scapulae.

In the left hand, the middle phalanges were absent in all the fingers; except in the middle finger, where a ring of bone, a quarter of an inch in length, supplied its place. The web between the fingers extended to the first phalangean articulation; so that only one phalanx remained free on the distal extremity of each finger. The left thumb was quite normal.

XIII. ULCERATION OF THE STOMACH—FATAL HÆMORRHAGE.

Mary Waller, aged 49, admitted into Lambeth workhouse Sept. 1, 1836. She had been ill about two months with pain in the epigastrium. About a month previously, she had had an attack of vomiting. She had pain in the region of the heart, the action of which was increased. She was pale and had the aspect of organic disease.

On the 6th, she was suddenly attacked with vomiting of blood, bringing up several clots: this subsided for twenty-four hours, although her power appeared to be very much diminished. The pulse very quick and feeble. On the 7th, a recurrence of the vomiting took place in the evening; when she expired rather suddenly. On the succeeding morning the body was examined. The right auricle was found to be dilated; but otherwise the heart, and large vessels, presented nothing remarkable. The lungs were a good deal congested. The œsophagus was full of coagulated blood; and the stomach distended by two large clots, which were separated by a peculiar constriction of the centre part of the stomach. On opening the stomach, the posterior surface was found adherent to the pancreas; at which part there was a deep ulcer of a sloughy character, with much surrounding hardness. The coats of the stomach itself were destroyed; and the ulceration extended into the substance of the pancreas, penetrating a vessel of considerable size, the open mouth of which was readily discernible, and from which source the blood had evidently escaped.—The pancreas was found rather harder in its structure than usual.

XIV. CASE OF A REMARKABLE ENLARGEMENT OF THE FEMALE BREAST. By S. ASHWELL, M.D.

Elis. R. aged 24, short and spare, admitted under the care of Dr. Ashwell,

October 15, 1840, on account of a large tumor of the breast. The following is Dr. Ashwell's note of it upon the 18th.

"The tumor, which is immensely large, measuring twenty-nine inches in circumference, and weighing nearly twenty pounds, is lobulated; the lobes being formed by several almost parallel divisions, running from above downwards. The surface is tolerably smooth, but of much darker colour than other parts of the skin; and branches of veins ramify superficially over it, giving it very much the appearance and tint of the round balls of mottled soap seen in the shops of the perfumers.

The enlargement is uniform, but, although connected with it, does not seem to involve the original structure of the mammary gland; for although what I suppose to be the lactiferous tubes can be distinctly traced from the inner side of the growth into the substance of the gland, still the extent of the healthy mamma can be easily defined. That the lactiferous tubes are enlarged, admits of no doubt; but the great volume of the growth seems to consist in the addition of cellular tissue, containing, I imagine, a large quantity of fat. The whole mass is elastic, and soft; and in no part of it, even on the most careful examination, can I find any trace of indurated or even of slightly-condensed hard structure."

She gave this history:—She began to menstruate soon after twelve years of age: and continued to do so, quite healthily, until her marriage, which occurred at nineteen. She soon became pregnant; and in ten months was delivered of a healthy living child;—the labour having been rather tedious, but in other respects perfectly natural. She suckled with both breasts for the first two months; but was then compelled, in consequence of a diseased state of the nipples, to wean the child. About a fortnight after the accouchement, an abscess formed in the right breast (the seat of the present disease); and in a month discharged itself by a number of small openings, rendering the under part of the gland quite cribriform: these, however, soon closed; and the matter, again collecting, was evacuated by the natural process, through a large opening at the upper part of the breast. The drain consequent on this abscess, and the irritation produced by an attack of erythema nodosum, rendered the weaning absolutely essential.

Within eight months of her first confinement (both breasts being at that time of their natural dimensions and appearance) she again became pregnant. About the twelfth week she perceived a hard swelling, of the size of a hen's egg, in the right axilla: this was neither painful nor tender; but as it increased in size, she applied, under medical advice, some leeches and evaporating washes;—it having been suggested that it was an enlargement of a gland, from irritation. Instead of diminishing under this treatment, the swelling increased; and there was also considerable irritation and pain. Iodine, from her own statement, was subsequently used; but as no better result ensued, it was determined to adopt no further treatment till after her confinement. From this time onwards, to her delivery, which was perfectly natural, the tumor grew: and it measured, on the third day after parturition, eighteen inches in circumference. On this day, the milk being nearly at its height, the tumor, having previously induced inconvenience solely by its size and weight, became exceedingly painful and tense; the uterus appearing to sympathize—as pressure on either could scarcely be borne. Mrs. K. suckled on the left side only; and although the milk still continued to rush into the tumor, it began from this period sensibly to diminish in size, till, at the eighth month, when she weaned on account of pregnancy having again occurred, the morbid growth was not larger than a small orange.

At the end of the third month, as in the second pregnancy, the tumor began again to enlarge, but more rapidly, though without pain. Soon afterwards she went into one of the hospitals; the tumor then measuring twenty-three inches in circumference. From the treatment pursued, Mrs. K. derived no benefit: and she consulted Mr. Callaway, by whom she was sent to Sir Astley Cooper.

After a careful examination, the tumor was punctured with a lancet ; and two ounces of curded milk, streaked with blood, were discharged.

The opening soon healed ; but shortly afterwards, a collection of fetid matter, intermediate between pus and milk, was evacuated. Within a month of this period, while making some undue exertion, there escaped from the same puncture a large quantity of blood, in a full stream. It stopped spontaneously ; but a similar loss occurring shortly afterwards, induced premature labour, at the seventh month. The child was born alive, but survived only twenty hours. Both mammae were now painful, the right more than the left ; and especially the tumor, which, as formerly, having been very tense and hard, began on the third day to diminish in size. The diminution, however, was very different to what had taken place at the expiration of her second pregnancy, when the growth did not exceed the size of a small orange ;—as at the end of six months (May 1840), when she became pregnant for the fourth time, the tumor was still more than fourteen inches in circumference. Now, Oct. 15th, 1840, it measures twenty-nine inches, and weighs nearly twenty pounds.

We need not pursue the details of the treatment adopted in the hospital. It was of no service. She left the institution. She had a natural and easy confinement, and the report on March 17th, four weeks afterwards, is—the tumor has decreased five inches ; its greatest circumference being twenty-five, instead of thirty inches and a half as after delivery. The mass is still soft and elastic. Its diminution in size is, however, very slow, compared with what occurred in previous confinements. There is still an opening low down on the external border, which discharges a few drops of cream-like fluid. She says that any undue exertion, such as cleaning her room, is followed by the increase of the growth to about an inch. She seems delicate and feeble ; and greatly complains of the burthen of the enlarged breast. There is but little secretion from the right mamma, to which the child is never applied ; but on squeezing, a little milk exudes from the nipple, between which and the milk from the sound mamma there is no perceptible difference.

Dr. Ashwell remarks—

“ I am not aware—although such have probably occurred—of any recorded cases exactly similar to the one now related. Examples of hypertrophy of the mamma, even of great magnitude, are rare : but several might be adduced, where enormous development has taken place in connexion with, or subsequent to, puberty : but so far as my inquiries have yet gone, I cannot find any instance where the hypertrophy has been so dependent for its increase and decline on pregnancy and lactation. The almost entire disappearance or removal of the growth after the second confinement and suckling, and its return and more permanent continuance after the subsequent deliveries, are points of great interest. Removing the malady, as they appear to do, from the class of malignant diseases, there is yet enough left, about such a case, of a decidedly morbid character, as must excite apprehension for the ultimate result. The diagnosis may not involve any great difficulty, but the probable course and termination of such a disease is far more serious. It is evident, however, much good may be done by light, nutritious, and unstimulating diet, pure country or sea air, cheerful society, and healthful exercise ;—that the safety of the patient mainly depends on a quiet inactive condition of the reproductive organs. To what extent, if at all, sexual intercourse, without pregnancy and lactation, may induce the return and the continuance of the disease, it is at present impossible to say ; but I believe that the suspension of such excitement would be most important ; nor can there be any doubt, when the tumor is permanently developed, that any remedial measures will be useless, so long as pregnancy and suckling continue to recur. An attentive perusal of Mrs. K.'s history will confirm these views. At first, her health was tolerably good ; and this unusual result of conception nearly disappeared, after the cessation of the functions which seem to have given it birth.

A repetition, however, of the same actions reproduces, and permanently establishes, the morbid growth : and it is, I fear, but too evident, if this faculty continues in full activity, that fatal consequences must ensue. Her health is already much broken ; her nervous system is unduly excited ; and her emaciation is marked and progressive. It is not difficult to foresee the result ; phthisis, or dropsy of some of the great cavities, will probably occur ; or perhaps, previously to the complete establishment of these diseases, the patient may be worn out by the mechanical and constitutional derangements attendant on the malady."

XV. OBSERVATIONS ON THE LAWS WHICH REGULATE THE DEPOSITION OF TUBERCLES ; WITH PRACTICAL INFERENCES APPLICABLE TO THE PROPHYLACTIC TREATMENT OF PHTHISIS. By GEORGE H. BARLOW, M.A. & L.M.

Dr. Barlow observes—"In our inquiries into the laws which regulate the establishment and progress of tuberculous disease, two questions of great interest meet us, as it were in *limine* : namely, (1) What are the circumstances that induce that constitutional liability to this disease which has been termed the tuberculous diathesis, or tuberculous cachexia ? and (2) What are the topical conditions most favourable to the development of tubercles in any particular organ ? It is to the latter of these questions that I now offer a reply : and it is this—*That any organ is most liable to become the seat of tuberculous deposit when its vascular and functional activity bears the greatest ratio to that of the other organs of the body.* This conclusion, I say, accords with my own observations ; and is confirmed by the facts recorded by many of our most distinguished pathologists, although their opinions have, in some instances, been opposed to it."

After some observations on tubercles in other organs, Dr. Barlow passes to the lungs. Proofs of the truth of the law he has laid down are to be found, he thinks—First, in the period when hereditary tuberculous disease generally first invades the lungs : 2dly, in the external circumstances which are known to be most favourable, or most opposed, to its progress : 3dly, in the part of the lungs which it most affects : and, lastly, in several pathological conditions which appear to influence the development of pulmonary phthisis.

1. Dr. Barlow argues that in childhood, when the respiratory functions begin to be active, tubercles begin to shew a tendency to development in the lungs. This is a time for caution, therefore, and for prophylactic treatment. He next speaks of the period of life when the body has attained its full proportions, or rather ought to have attained them. Then it is that the extremities, and those parts which return their blood directly into the right auricle, have acquired their greatest proportion to those which return it through the medium of the portal system : then it is that the circulation is often accelerated by continued bodily exertion and mental emotion ; then too it is, that females most sedulously compress the lower lobes of the lungs, thereby calling into greater activity those portions which are most liable to tuberculous deposit ; and then it is that pulmonary phthisis, which perhaps has had its commencement in an earlier period, commits the greatest ravages.

2. *Climate.*—The gist of Dr. Barlow's reasonings on this head is this—that increase of temperature, especially if combined with a humid atmosphere, must increase the action of the liver, and diminish that of the lungs ; but that, if the air be drier, the lungs are still relieved, but a greater amount of depurative action is performed conjointly by the liver and the skin : and, conversely, that a depression of temperature must call the lungs into greater activity, by diminishing the functions of the former organs. It also follows, that, since in a warm

climate the development of the liver must have been favoured at the expense of that of the lungs, a change to a cold climate must call the latter into a state of over-activity; whilst the same effect must frequently occur amongst those who reside in climates subject to sudden variations of temperature.

And this is precisely what we observe in respect to phthisis: the inhabitants of cold climates are, *cæteris paribus*, far more liable to pulmonary phthisis than those of warm climates; whilst a climate subject to sudden changes of temperature seems still further to favour the production of this disease: and a removal from a warm to a cold climate is frequently found to produce it, not only in men, but also in the lower animals; as is seen in those brought from southern latitudes to the menageries of this country.

It follows, then, that those climates, and those changes of climate, which excite the lungs to the greatest functional activity are precisely those in which phthisis is most readily and frequently produced.

3. *Employment.*—It is notorious, says Dr. Barlow, that those whose occupations expose their lungs to irritating causes are more liable than others to pulmonary consumption; as is seen in those who work in an atmosphere loaded with dust, or charged with irritating gases; whilst a remarkable immunity from this disease appears to prevail amongst butchers, tanners, soap-boilers, and others exposed to exhalations from animal matter. Dr. Barlow accounts for the immunity of the latter class of persons, by the fact of the co-adjutive action of the great depurating organs of the body. We shall readily perceive that the azotized and hydrogenous exhalations to which they are exposed must, if absorbed into the system, be removed by those organs whose function it is to eliminate the excess of such substances, namely, the liver and the kidneys; and, as whatever is prone to pass out of the system by any particular organ, acts as a stimulant to that organ; the liver and kidneys will, in such cases, be excited, and consequently the functional activity of the lungs impaired.

"There is one class of workmen whose diseases I have had great opportunities of witnessing, and amongst whom I have observed an extreme liability to phthisis; namely, hatters. And here, again, we observe an illustration of the same law; for these persons are employed, for the most part, in rooms heated to a very high temperature, and filled with aqueous vapour: under these circumstances, the liver must be highly stimulated; which continued stimulus must give rise to a torpidity, under ordinary circumstances; so that, when they leave their heated rooms, a suppression of the action of this organ, and a corresponding increase of action of the lungs, must ensue. These persons are, in fact, placed in the same circumstances as those liable to sudden atmospheric changes, but in a greater degree."

4. *Part of the Lung most affected.*—The upper part of the lung is, for several reasons, most worked, and is most liable to tubercles.

5. *Pathological Considerations.*—Pregnancy, which draws the blood to the uterus, suspends phthisis.

"Again, a still more unexceptionable proof is afforded in the well-known fact of the arrest of tuberculous disease in the lungs, and consequent prolongation of life, in those cases where pneumo-thorax has occurred from perforation. In these cases, the compressed portion of lung has sometimes been found to have been the only part which is exempt from tubercles. Thus, in a case recorded by myself in the Fourth Volume of this work, perforation of the superior lobe of the left lung occurred; the consequence of which was, that the inferior lobe of the same lung collapsed; and when death ensued, at the end of three years, the portion of lung was found firmly bound down to the bodies of the vertebræ by adventitious membrane, and was entirely free from tubercles;

although the remainder of the lungs were so extensively affected by them, that the proper pulmonary tissue was almost entirely obliterated throughout; and the patient died from want of respirable lung, which is rarely the case in phthisis."

Dr. B. draws an additional argument, from the fact, that pulmonary phthisis frequently follows closely upon the suppression of suppurative discharges, as after the removal of a strumous limb; whilst a fresh action in a remote part of the system, whether excited by disease, by accident, or by design, appears to check its progress. Thus, in examining the bodies of those who have died of suppurative affections of remote parts, we often find traces of antecedent or inactive tuberculous disease in the lungs.

6. *Practical Deductions.*—Dr. Barlow concludes:—"The great principle which, in a therapeutical point of view, it seems to establish, is the importance, in the prophylactic treatment of phthisis, of keeping all the excreting organs in a state of moderate activity, and preventing an excessive performance of function by any. When, however, there appears reason to apprehend that undue excitement of the lungs exists, we must endeavour to relieve the functional excitement through the medium of the other excreting organs; and the hyperæmia, by moderate local depletion, and the use of remedies likely to control the action of the heart. The means of fulfilling these indications will readily suggest themselves to the experienced and reflecting practitioner: but as my great object in the present essay has been to establish a pathological principle, though one immediately applicable to therapeutics, I shall not now enter further into details, than to state, that in cases where I have observed a diminished resonance on percussion under the clavicle, with preternatural resonance of the voice in the same situation, occurring in connection with constitutional symptoms calculated to excite the apprehension of phthisis, especially when they presented themselves in a member of a strumous family, I have generally been in the habit of applying leeches or cupping-glasses, and afterwards occasional counter-irritants, and of exhibiting internally sulphate of quinine in combination with digitalis, and some narcotic, which seems most applicable to the particular instance. So large a proportion of these cases has been benefited, that I am much inclined to think that in some the invasion of phthisis has been warded off. The object of the quinine has been to counteract that general debility of the system which seems associated with the tuberculous cachexia; and that of the digitalis to prevent hyperæmia of the lungs, by moderating the action of the heart."

XVI. HISTORY OF THE LAST ILLNESS OF SIR ASTLEY P. COOPER, BART. AND EXAMINATION OF THE BODY AFTER DEATH.

For many months previous to his last illness, Sir Astley Cooper had occasionally experienced great dyspnoea, upon the slightest exertion; and it had been observed by his friends, that the peculiarity of his complexion bespoke some serious impediment to the circulation. It was not, however, till about six weeks before his death that he found difficulty in assuming the recumbent posture; and about that time he began to pass the greater part of his nights in the arm-chair, rather than attempt to lie down. He still continued to see a few patients during the day, both at home and at their own houses. He now became the subject of frequent cough; which was immediately brought on, if he attempted to recline. The gout, of which he had for several years experienced periodical attacks, shewed itself imperfectly in the fore-finger of the left hand: and his legs began to swell, owing to the depending position in which they constantly remained.

During all this time he refused medical aid; and it was not till the 22d of

January that he consented to see any one, to whom he might state his symptoms. At the time he was first visited, he was sitting in his chair, with his body inclined forward, and his chin nearly resting on his chest; the pulse accelerated; not the slightest *bruit* nor abnormal sound in the heart; though the beat was extensive, and heard quite to the right side of the chest. The lungs afforded considerable bronchial rattle, but were neither consolidated nor compressed, and filled both cavities of the chest.

Although remedies appeared more than once to produce a temporary remission of his symptoms, and a further attack of gout in one foot seemed to afford some relief to the chest, yet, upon the whole, the disease advanced, and was attended by frightful fits of dyspnoea, during which his face was purple and his mind confused; and it was in one of these paroxysms that he died, on the morning of the 12th of February.

Shortly before his death, Sir Astley Cooper expressed a wish that the appearances which should be presented on the inspection of his body might be recorded in the Guy's Hospital Reports. He had particularly alluded to four points, the investigation of which he thought desirable;—a cured oblique inguinal hernia; a cured umbilical hernia; some suspected indications of phthisis in his youth; and an inability to sleep whilst lying on his left side.

Examination of the Body.—We shall omit what particulars seem unimportant. There was general and extensive oedema of the lower extremities, and in them only.

The head was not examined.

A globular projection, about the size of a large nut, was found at the umbilicus; which receded on pressure, leaving a well-defined rounded aperture in the linea alba, capable of admitting the end of the little finger. This protrusion consisted of a few congregated lobes of fat placed immediately behind the umbilicus, between it and the peritoneum; the free surface of which was corrugated, and presented a puckered appearance, most probably inflammatory, and the result of the artificial curative means which had been employed for a long period during life.*

The greater omentum, loaded with adipose matter, was contracted, and did not extend downwards more than two inches from the transverse colon. Some very old membranous adhesions existed between the right angle of the colon and the gall-bladder.

Some parts of the surface of the liver were slightly contracted and uneven; and sections of it presented hepatic venous congestion, approaching what is termed a "nutmeg appearance."

The kidneys were surrounded by a considerable quantity of adipose tissue, remarkably dense, and very firmly adherent to the fibrous capsule of the gland. Both kidneys were much congested with blood, rather larger than natural, their surfaces mottled, and slightly granular. These morbid conditions were most evident at the lower part of the left kidney; less advanced, but more generally diffused, in the right: and on the anterior surface of the latter, near its convex edge, were found two small cysts, containing a straw-coloured fluid.

The internal abdominal ring, on the left side, was rendered distinct by a tubular extension of the peritoneum for about an inch into the inguinal canal.

A depression existed in a corresponding situation on the right side, the bottom of which was firm, irregular, and corrugated; and upon very careful examination, a minute serous canal, not more than a line in breadth when opened, was

* Sir Astley wore a piece of cork, adapted to the umbilicus; and maintained in its place by straps of adhesive plaster, during many years, and until his fatal illness.

traced, extending from it, along the spermatic cord, into the cavity of the tunica vaginalis, being the remains of a congenital inguinal hernia.*

Upon raising the sternum and cartilages of the ribs, both lungs were brought into view; and retained their expanded condition, overlapping the pericardium, and manifesting no disposition to collapse. No pleuritic adhesions existed on either side of the chest; nor was there any effusion, except into the right pleural cavity, which contained about three ounces of sanguinolent rather turbid serum.

A little recent pleuritis was found on the middle lobe of the right lung, rendering it slightly adherent, by plastic effusion, to the adjoining lobes, to a small extent. Both lungs presented general vesicular emphysema to a very great degree, and their edges were more rounded than natural.

The larynx was not examined.

The lining membrane of the trachea and larger bronchi was smooth, but of a dark purple hue, from congestion in the minute blood-vessels: the same appearances extended throughout the bronchial ramifications, the smaller of which were filled with a very tenacious puriform mucus; and many of them were observed much dilated. Both lungs were extremely congested with dark blood, especially in and near the central portions of their lobes. At the superior and posterior part of the right lung was a small depressed and somewhat contracted surface, about the extent of a sixpence; a section of which exposed a calcareous mass, very uneven upon its surface, and about equal to the size of a small pea: it was placed about three lines distant from the pleura.

When the pericardium was opened, the heart was seen, very large, and distended; and about two ounces of rather dark or brown-coloured slightly turbid serum occupied the posterior part of the cavity.

The right auricle and ventricle filled with very dark-coloured imperfectly-coagulated blood. The auriculo-ventricular valves sound. Through one of the pulmonary valves, near its angle of union with an adjoining valve, was a perforation nearly the size of a small goose-quill. A tolerably firm fibrinous coagulum was found in the pulmonary-artery and its branches, extending, by minute prolongations, to the fifth divisions: these were made evident, by withdrawing them in a continuous mass with the forceps.

The left auricle and ventricle were occupied by a large quantity of black grumous half-liquid blood. A large portion of the mitral valve opaque, and a little thickened; otherwise healthy. The aortic valves thickened, and rather rigid at their attached margins; whilst the free margins presented a remarkably healthy appearance for their age.

The left ventricle was much dilated; its apex much broader, and more prolonged than natural; the parietes somewhat hypertrophied; and the muscular fibres of the whole organ were pale, flabby, and weak.

The aorta, which was small and narrow, pursued its usual course, but gave off the left vertebral artery between the left common carotid and left subclavian. The entrance to the arteria innominata was contracted, and slightly irregular.

Many small irregular yellowish opaque patches were seen under the lining membrane of the thoracic aorta and the ascending portion of the left subclavian artery. In most of the parts so affected, the internal membrane was much softened, breaking down under slight pressure; at three or four points it was destroyed to a small extent, admitting a thin layer of dark matter, probably altered blood, separating it in a slight degree from the subjacent tissue: this latter state was noticed near the origin of the arteria innominata and the commencement of

* Sir Astley Cooper wore a truss on the right inguinal canal, from the age of 19 to 25.

the descending aorta. The whole length of the abdominal aorta was full of black grumous blood; its parietes thickened; the lining membrane opaque, and raised by the sub-deposition of hard, almost bony matter.

EDINBURGH NEW TOWN DISPENSARY.

FEVER IN EDINBURGH.*

The medical officers of this Dispensary have given a statistical account of their practice during the year 1840.

Without going into this Report, which would be uninteresting, we may notice the facts relating to *Fever* in Edinburgh.

The months of January, May, and June, show the greatest number of fever cases. Without including febricula and infantile fever, there have occurred, during the whole year, 297 cases of typhus, being in the proportion to the whole practice of 1 to 15. Of these, the acting medical officers have sent 75 to the fever wards of the Royal Infirmary, and of the remainder treated in their own houses, there are accurately recorded 15 deaths, and 188 recoveries, that is, the ratio of the former to the latter is less than 1 fatal case in 12. It is to be remembered, however, that fever cases sent to hospital are in general marked by severity of symptoms, or they occur in families suffering from extreme destitution. Regarding the locality of fever, it is found that 32 per cent. are in the New Town, and 68 per cent. in the Old; or, dividing the whole city into three districts, by two lines drawn from north to south; one through Pitt Street, Dundas Street, the Mound, and George IV's Bridge; the other by Broughton Road, Elder Street, Leith Wynd, and St. Mary's Wynd, the result is, that in the middle one of these divisions, 39 per cent. of fever occurred; in the east division the proportion is as high as 42 per cent., but in the west it is only 19.

These three divisions are not thought to be equally populous, but of late years it has been found that the middle one supplies the New Town Dispensary with the greatest number of cases of all other diseases. The low number of fever cases in the west division, which includes the densely populated Grassmarket and neighbourhood, is probably peculiar to the year 1840; and including their experience during several years, the medical officers are not prepared to select any particular locality in the Old Town as specially subject to typhus. In this respect their views confirm those of Dr. Alison, lately published in the *Journal of the Statistical Society of London*.

The number of fever cases would seem, if calculations are to be relied on, to amount, in Edinburgh and Leith, to 20,425, or thereabouts.

PERTH INFIRMARY.

CASES OF HÆMORRHAGE AFTER OPERATION, WHICH OCCURRED IN THE PERTH INFIRMARY. By FRASER THOMSON, M.D., Surgeon to the Infirmary.†

The following cases, indeed all, of secondary hæmorrhage, are interesting:—

CASE I.—*Amputation at the shoulder joint—hæmorrhage—recovery.*—George

* *Edinburgh Monthly Journal*, May, 1841.

† *Ibid.*

Marshall, aged 34, a discharged soldier, admitted July 8, 1840, for disease of the right humerus, near to the deltoid muscle, which has divided the bone, and communicates externally by a large ulceration, discharging an unhealthy matter. The year previous, he was admitted into the house for a malignant disease of the left testicle, which was removed. After consultation, it was determined to remove the arm at the shoulder joint, as there was not sufficient space otherwise to form a good stump. The operation was accordingly performed the next day; five arteries required the ligature; and the stump was dressed in the evening, after all oozing of blood had ceased. For the next two days he did very well; but on the beginning of the third, the stump became suddenly greatly distended, threatening to burst, and arterial blood flowing from the inferior angle. Pressure was immediately made on the subclavian artery with the finger, and maintained for some time, whilst broad straps of adhesive plaster, were applied to the stump to give it support, and the parts kept diligently wet with a frigid mixture. These means were happily sufficient, and the patient was dismissed cured on the 10th of October following.

CASE II.—*Fistula in ano—operation—hæmorrhage—actual cautery—recovery.*—John Grant, weaver, aged 30, admitted 14th February, 1840, for a fistula in ano of seven years' standing. On examination, three sinuses were found, having one common opening at the right side of the anus—one passing backwards, another forwards, and the third upwards, parallel with the gut, but not communicating with it—each about two and a half inches in extent. The two first were laid open a few days after admission, and the third was cut in the usual manner after they had healed. Its walls were found exceedingly hard, almost cartilaginous, having been twice operated on before. The bistoury broke in consequence, but another being at hand, the operation was quickly finished. Little blood was lost, the parts being dressed with oiled lint; the patient was put to bed, and, three hours after, Dr. Thomson was called to him. He had lost about 2 lbs. of blood; and the house surgeon had attempted to arrest the hæmorrhage, both by pressure and styptics, but in vain. A speculum was immediately introduced into the rectum, when the blood was seen flowing freely from numerous orifices. All attempts to apply a ligature having failed, the actual cautery was prepared. A bent copper spatula was introduced to protect that part of the gut not covered by the speculum; the fistula was thus the only part exposed. Every bleeding point was then touched by a heated iron wire, about a quarter of an inch in diameter, and not until this was several times repeated did the blood cease to flow. The patient, as might be expected, was a good deal exhausted, but, nevertheless, made an excellent recovery, and was dismissed cured in the end of April.

CASE III.—*Disease of the knee joint—amputation—hæmorrhage—ligature of the femoral twice—recurrence of the hæmorrhage—ligature of external iliac—recovery.*—Thos. Dow, labourer, aged 46, admitted Jan. 17, 1840, with disease of the left knee-joint. An abscess was opened above the articulation, and his health began to suffer. Amputation was accordingly performed on the 24th of May, by the double flap operation—ten vessels required ligature, and a vein near to the bone continuing to bleed very profusely, it became absolutely necessary to tie it also. A large quantity of blood was lost. The patient was in consequence exceedingly faint, but rallied after the administration of stimulants. The stump was dressed in the evening. The progress of the case for the next ten days was very satisfactory, notwithstanding a slight oozing of arterial blood, which was easily arrested by cold and pressure. On the 12th day after operation, all the ligatures had come off, the femoral being the last. On the following day arterial hæmorrhage occurred with great violence, distending the stump and soaking the dressings. The tourniquet was applied to the femoral artery for a

few minutes till the vessel was tied. The ligature was passed round it rather less than an inch below Poupart's ligament, in order to be above the origin of the profunda. The bleeding ceased, and cold cloths were applied. The next day, however, early in the morning, it again returned as profusely as ever. The lips of the wound were opened, and the artery secured *immediately below* Poupart's ligament, with very little disturbance to the surrounding parts: the hæmorrhage again ceased, and the cold cloths were continued.

He was now so feeble as to require constant stimulants. He rallied. "On the morning of the 5th day, however, hæmorrhage occurred for the third time. On this occasion the blood flowed from the femoral artery, where it was last tied. The patient himself was the first to detect it, and stopped any further loss of blood, by applying his finger over the vessel; only a few ounces escaped. On going to the hospital, I was fortunate in getting the valuable assistance and advice of my friend Dr. Malcom. After examination, it was evident that the iliac artery must be tied, with what chance of success was by no means certain, from the great tendency to arterial ulceration. The operation was begun after the method of Sir Astley Cooper,—the skin being cut through, and the edges of the abdominal muscles raised. Neither the peritoneum nor the artery could be found. After a careful dissection through fatty matter and enlarged glands, the vessel was felt, considerably nearer to the pubis than naturally, beating very feebly, and much altered in appearance. An unarmed tenaculum, guided by the forefinger of the left hand, was attempted to be passed under it, but, notwithstanding the greatest care, it gave way. The wound was instantly filled with blood, the further escape of which was prevented by the forefinger of the left hand instantly compressing the vessel against the bone. The situation of the patient appeared now to be almost hopeless. It was agreed, after a short consultation, to attempt a ligature still higher up. To enable me to disengage my left hand, Mr. Frew, one of the dispensary surgeons, slipped his hand over mine, and compressed the artery. I then extended the cutaneous incision, upwards and outwards, for about two and a half inches. The fibres of the external oblique being separated, the internal oblique, transversalis, and fascia, being cut through to the extent of the cutaneous incision, the peritoneum was carefully detached from its cellular connections. At this stage of the operation, the difficulty that occurred in finding the artery in the first instance was fully explained. (A tumor of about the size of a small orange, rather flat, occupied the situation of the iliac artery just as it passes out of the abdomen, pushing the vessel to the pubic side, and by its pressure injuring its coats, whilst at the same time the peritoneum was thrown upwards.) The artery was now easily separated from the vein, and, as it appeared to be quite healthy, a ligature was passed under it about an inch below the origin of the internal, and tied with a single knot. The end of the ligature was brought out at the wound, which was closed by one or two points of suture. This last operation was fortunately successful in this nearly hopeless case, and from this time the patient never had an unfavourable symptom. The abdomen, being tender on pressure, was fomented with decoction of poppies, and a few leeches were required once or twice for a slight pain near to the wound. The ligature of the iliac came off on the 18th day after operation, and the patient was dismissed cured on the 31st of July, two months and four days after amputation of the limb."

These are instructive cases.

EYE DISPENSARY OF EDINBURGH.

ON THE ERADICATION OF INVERTED EYELASHES: AND ON THE PREPARATION OF FINE POINTS OF CAUSTICS FOR OPHTHALMIC AND OTHER PURPOSES. By JAMES HUNTER, M.D., F.R.S.E., Surgeon to the Eye Dispensary of Edinburgh.*

Dr. Hunter applies this method to those cases in which the edges of the lids retain their natural direction, and not to cases of *entropium*. He applies an irritant to the hair-bulbs, to destroy their reproductive function. He has found tartar-emetica answer best. The following he has found the best method of proceeding.

1. *To ascertain the presence and position of the inverted eyelashes.*—When they are white coloured, and of extreme delicacy, not exceeding the $\frac{1}{16}$ of an inch in diameter, as is often the case, it is very difficult to distinguish them; the edge of the lid should be brought in contact with the cornea, so that the pupil or iris may form a good contrasting background, and though they may not be visible at once, the surgeon should look from a variety of positions, and alter the direction of the light till he sees them. A convex lens of two inches focus, and not less than an inch in diameter, should be held by an assistant so as to condense the light on the parts, which is a much better plan than using it as a magnifier. If, in order to make the puncture, the edge of the lid is to be removed from the cornea, it is well first of all to blacken the pale and delicate eyelashes with any dark extract, such as belladonna, to render them visible, when contrasted with the white sclerotic coat. 2. *The puncturing of the bulbs.*—This should be done with a lancet, or iris knife, entered close to the base of the inverted hairs, in the direction of their growth, to the depth of an eighth of an inch, and moved about a little, so as to widen the bottom of the wound, and cut the bulbs. In doing this, it is sometimes advantageous to stretch the part either with a small hook, or over a convex black horn spatula, such as is usually attached to the German wire speculum. 3. *The inoculation.*—This must be deferred till the bleeding has wholly ceased, when the lid being wiped very dry, the drilled end of a darning needle slightly dampened, and dipped in powdered tartrate of antimony, or, what answers far better, the tartar emetic point made in the manner to be afterwards described, is to be inserted in the puncture, and held there for a few seconds. 4. *The evulsion of the inverted eyelashes is the last step.*—They should be seized lengthways close to their roots, and drawn with a slight jerk. When common dissecting forceps are used, they should be held below their shoulder, and close to their points, which are apt to separate a little when the fingers are placed higher up. The best forceps are those made without teeth; the holding part being merely rough polished, so as not to cut hairs. When the eyelashes are exquisitely fine, and slip through even the best made forceps, I have found it an infallible plan to damp their points with a saturated solution of shell lac in alcohol, and to grasp the hairs for a second or two before pulling them. A momentary, though sharp pain follows the inoculation, and more or less inflammation; but the latter generally subsides in the course of twenty-four hours, and if the operation has been properly done, it recurs in a day or two, in a subacute form, producing a slight pustulation, which, however, is of very limited extent, causing almost no annoyance, but is sufficient to destroy the functions of the bulbs.

* Ed. Monthly Journ. of Med. Science.

2. *How to prepare fine points of caustics, &c.*—"Eight years ago I was called to a case of profuse bleeding from leech bites on the scrotum; after several things had failed, I tried the well-known plan of inserting the sharp point of a stick of lunar caustic in one or two of the bites, which immediately ceased to bleed, but as they were very numerous, the caustic soon lost its point, and I tried in vain to stanch the others with the blunt end. The case being extremely urgent, and the patient nearly pulseless, there was no time to make a new point in the common way, so I wrapt the nitrate in a bit of paper, crushed it with my heel, and placing some of the fragments on a silver half-franc piece, I held it over the flame of a candle, and then dipt the triangular-pointed flat end of a silver probe, previously roughened on a stone, in the melted salt, which adhered, and on cooling formed a fine coating. This being inserted quite into one or two of the bites, they immediately ceased to bleed; to get another point of caustic on the probe was the work of an instant, and, in this way, a most alarming hæmorrhage (the patient being almost in articulo) was speedily arrested. I can recommend the plan to general practitioners when they meet with similar cases, and it will be found an improvement to heat the flat end of the probe before dipping it, and afterwards to hold it in the blue part of the flame for an instant, as in this way a smoother coating is procured. Since the above incident, I have been in the frequent habit of employing the same method to get a fine point of lunar caustic for various ophthalmic purposes, such as touching small sloughy ulcers of the cornea penetrating to the membrane of the aqueous humor, and in many other cases. I have also in this way got a fine coating of the nitrate on a probe, to be passed into the nasal duct in some cases of fistula lachrymalis; and I conceive it might be found useful in many cases in general surgery, such as sinuses, affections of the nose, ear, &c., where caustic would often be introduced, but for the fear of serious consequences from the breaking of a common stick of it in such situations. The plan just recommended answers equally well for caustic potass, when a fine point or globule of it is required, as for producing eversion of a misplaced eyelash, or for destroying the remains of cysted tumors in the eyelids, or other purposes. The potass may be applied to the roughened surface of any common metal; but for the nitrate of silver, the probes must be of silver or gold, else the salt is rapidly decomposed and the probe destroyed. A fine point of tartar emetic, sulphate of copper, and similar salts, may be got by chipping their crystals, and then fixing the fragment on the end of the probe with sealing wax; but another plan, and the only one, when a long bristle, as it were, of these substances is required, is to take a wire, or the point of an old lancet, and heating it, and giving it a very thin coat of sealing wax, to push it whilst hot amongst the powdered salt. In this way a probe, which is to be introduced into a sinus, or into the nasal duct, may be coated with sulphate of copper or any other metallic salt; and this is the method I employ to prepare the flat points of tartrate of antimony for inoculating the bulbs of inverted eyelashes, using for the purpose a bit of platinum foil shaped like a lancet."

The first person we saw use the nitrate of silver on a probe in this manner was Sir Benjamin Brodie. This was many years ago, and we have since adopted the plan very frequently. We have cured, in this manner, several troublesome sinuses, fistula ani, &c. and have noticed it more than once in this Journal.

CASE OF TEMPORARY AMAUROSIS OF ONE EYE, FOLLOWING THE
EXTRACTION OF A TOOTH. By J. HUNTER, M.D.*

In July, 1838, a lad, aged 17, applied at the Dispensary on account of a dim-

* Ed. Monthly Journ. June, 1841.

ness of sight in the left eye, which had come on rather suddenly and under peculiar circumstances. He stated that the sight of both eyes had been very good till four days previously, when, suffering from toothache, he went in the evening to a druggist to have a carious tooth extracted from the left side of the upper jaw. The operation was easily and dexterously performed, and the pain was not particularly excruciating. At the moment the tooth was loosened from the socket, he perceived a brilliant flash of fire before the left eye, which was followed for some minutes by several fainter ones at short intervals. On going to bed an hour or two after, the flashes of fire reappeared, and continued for about an hour, when they gradually ceased. Next day he found the sight of the left eye very much impaired, and all objects seen with it appeared enveloped in a thick mist. He also observed a sort of luminous coloured ring, whirling round, as it were, in the interior of the eye. This state of matters continued much the same for the next two days, and, on the fourth day, he thought there was a decided improvement.

"On examining the left eye, its pupil appeared a *very* little more contracted than that of the right eye, but its shape was perfectly regular, and the motions of the iris unimpaired. In every other respect, too, the organ presented a perfectly natural appearance. The general health of the lad, who was of a somewhat sanguineo-nervous temperament, was good. He had no pain in the eye or in the brow, and no symptoms of cerebral congestion, or of derangement of the digestive organs. When he closed the right eye, the sight of which was sufficiently acute, and looked with the left one at the page of a book, printed in a type which I have since ascertained can be easily read by a good eye at a distance of 48 inches, I found he could not make it out at a greater distance than about 15 inches, and even then with difficulty, and at any nearer distance, though the letters appeared larger, they still seemed to run into each other. When I tried him with type about one-half the size of the first, he was unable to read a single word of it at any distance." "Neither convex nor concave spectacles improved his sight. His perception of colours appeared somewhat impaired, but I had not the means at hand of examining carefully the condition of the eye in this respect. The tooth which had been extracted was the first great molar on the left side of the upper jaw. On making firm pressure with the points of my finger in its socket, there was no unusual tenderness nor any shooting nervous pain produced, and I could not discover any remaining portion of the tooth, nor any splintering of the alveolar process."

Dr. Hunter left the case to nature, and at the end of a fortnight he could distinguish all but very minute objects. He did not return afterwards, so that his recovery was probably complete.

ROYAL INFIRMARY OF EDINBURGH.

CASE OF URINOUS VOMITING.*

Dr. Douglas reports this case from the practice of Dr. Henderson.

Marion Purdie, aged 25, a house servant, had laboured, for about six years, under the various pains and aches, accompanied with difficulty of micturition, which young women, out of Scotland, as well as in it, are very prone to suffer from. She was admitted in September, 1840, with pain in the loins and head, she had passed no water for two days previously, and now what she made was dark coloured and scalded her. The catheter was introduced pretty regularly—

* Ed. Monthly Journ. June, 1841.

she had a *hysterical fit*—and on the 14th September she passed 18 oz. of urine, and vomited 8 oz. of a fluid very similar to urine in appearance and odour. The matters vomited were received into a clear vessel, and instantly removed to a place of security.

“My friend Dr. Philip Maclagan, now Staff-Assistant Surgeon at York, then proceeded to analyze the fluid, and found that, after the addition of nitric acid and gradual evaporation, crystals were deposited; these were dissolved in a small quantity of tepid water, and after standing, most of the impurities having subsided, the clear liquor containing the nitrate of urea in solution was poured off and evaporated. The crystals thus obtained were pressed between the folds of bibulous paper, and afterwards dissolved in pure water; this solution was evaporated at a slow heat, when the crystals were again formed. I think it right to state, that I did not myself witness the act of vomiting, but I have no reason to doubt the testimony of the person who was present, and at my request took the precaution to receive the matters vomited into a clear vessel.

In the beginning of October she was attacked by typhus fever, probably from infection. The attack, though of short duration, was a smart one, and was accompanied with the usual eruption. On the second or third day of the fever, she had a fit similar to that formerly described, but less severe. The urine continued in its usual small quantity until the eighth day of the fever, when she was seized with vomiting, and soon afterwards she passed 16 oz. of urine.

The matters vomited presenting a yellow frothy appearance, as if containing a considerable quantity of bile, were carefully preserved; and from them, with the assistance of my friend Dr. Philip Maclagan, I obtained, by the process formerly described, some crystals, undoubtedly consisting of the nitrate of urea.”

The patient, after this, steadily convalesced. Dr. Douglas adds:—

“Considering the cases of this kind which have been already published, I would not have brought forward the present one were it not that I have been enabled to avoid those sources of fallacy to which cases formerly published were exposed. The subjects of this disorder, mostly hysterical women, have been known in some cases to mingle urine with the matters vomited; in others, to swallow urine, and then excite vomiting. Besides, I do not know of any case in which the matters vomited were analyzed, their identity with urine being presumed merely upon the similarity of appearance and odor.

In the present case vomiting occurred when the patient was in that condition, so common in the advanced stage of fever, in which she was unable to turn herself in bed; so that the possibility of her having deceived us is put out of the question; and again, the analysis of the matters vomited, places beyond a doubt the existence of urea in them.”

And yet we are not sure we believe this. The woman *may* have put some urine in the vessel—*may* have swallowed some—some urine *may* have been accidentally in the utensil on the last occasion (the long interval between the vomitings would have deadened precautions)—Dr. Douglas’s informant *may* have been careless—or the same informant *may* have been an accomplice—or one hypothesis *may* explain the first occurrence, another the second—in short, this *may* have been a piece of legerdemain not a bit more extraordinary than some of the animal magnetism flams—and much more likely and credible than a departure from the ordinary laws of nature. For, be it observed, that all these cases occur in young women. From the Okeys downwards, *they* are the favoured agents of the marvellous.

By the way, we observe in the Journal before us another of these queer cases—one of *coma* in a young girl, lasting an immense time—a wonderful and a hysterical complaint. There is no end to them.

OPHTHALMIC HOSPITAL OF CANTON.

It appears that this hospital has existed for some time, and that the natives were beginning to appreciate its benefits. But his pig-headed celestial majesty was unwilling that his subjects should be cured by barbarians, and resolved on an ophthalmia monopoly. The fortunes of the institution have been chequered of late.

It increased in prosperity up to the 23rd of March, when foreigners, one and all, were deprived of their servants, and in a manner of their liberty. At the commencement of this state of things, the few indoor patients were desired by the senior hong-merchant to remove, and the hospital was closed. After a while, however, the officers on guard around the factories began to seek medical aid; and, though they permitted no communication with the people in general, they presently gave admittance to the physician's house, to men of rank, who were allowed a greater measure of liberty in visiting the factories. On the withdrawal of the soldiery and armed coolies, the number of patients gradually increased, but with a greater preponderance than before of official people: yet others were not wholly restrained from seeking relief for their maladies; females even over-passed the prejudices against entering the factories of foreigners. It was in August, that, finding his private residence too small for the reception of the increased number of patients, and unsuccessful in every endeavour to return to the building formerly occupied, the physician removed to the premises of the Canton Dispensary of Messrs. Cox and Anderson.

Commands were issued by the chunghee, against any natives passing in front of the factories, be they men, women, or children: this was applied chiefly to females by the subordinate officers, who were anxious, in consequence, that no females should be received as patients. A few days after, however, appeared a young woman of about sixteen years, from the family of the kwanghee. This officer, of like rank with the chunghee, both being what we may call brigadiers, was associated with him in the control of the foreign factories; and the breach, by one from his own family, of his colleague's orders, reduced these at once to a dead letter. There was no longer any hindrance to the access of females: they came, however, with more of reserve than formerly; and some begged to be seen in boats before the factories, or at their own residences in the suburbs of the city: so that the evil of exclusion from the former hospital has not been without its advantages, inasmuch as it has given rise to a more ready and more frequent access into private families than otherwise would have been thought requisite.—The young woman from the kwanghee's family came with cataract of both eyes; and, though she would not remain as an in-door patient, but returned as soon as the cataracts were operated on, the operation was completely successful.

The smaller number of patients attending, in consequence of various restraints has happily left more leisure for prosecuting the study of the language, and for acquiring facility of writing it, as well as of translating from it.

Among the more distinguished personages who have, directly or indirectly, availed themselves of the benefits that the institution affords, were, Howqua, the senior hong-merchant; Tsun, an officer from Yunnan; Lew, magistrate of Nanhac, and his brother; Wang, a commissioner or intendant of circuit in Kwangse, son of the Van tazhin of Macartney's embassy; the ganchasze, the pochingaze, heads of the judicial and the financial and territorial affairs of this province,—and, not least, the high imperial commissioner Lin, of whom all have heard so much.

The total number of patients that have been admitted and their names record-

ed, during the year 1839, has been 800: the aggregate number since the commencement of the institution in November of 1835, about 7000.*

STEEVEN'S HOSPITAL.

A CASE OF HÆMORRHAGIC DIATHESIS. By S. WILMOT, A.B., M.D.
One of the Surgeons, &c.

In the year 1837, a boy four years old was taken to Dr. Wilmot's house, in consequence of a bleeding from the palate, just behind the alveolar process of the incisor teeth; a very superficial abrasion of surface could be observed, from which blood continually flowed. The bleeding had existed for four days before Dr. W. saw him; the blood was very pale, watery, and did not coagulate; pulse very quick, and the entire surface of the body was extremely pale. Dr. W. applied the nitrate of silver, used pressure, and prescribed the infusion of roses, with sulphuric acid and tincture of digitalis. The flow of blood did not entirely cease for five days. In about two months a small tumour appeared over the right parietal bone; attempts were made to effect the absorption of this swelling without success; it suppurated broke, and discharged pus. The following day a profuse hæmorrhage took place from the cavity of the abscess, which was arrested by pressure, and no return of bleeding took place after the fourth day. He soon began to gain strength after this attack. While in this state of improvement he fell, while playing, over a bucket, and received a transverse wound of the tongue, which divided the lingual artery on the left side. After the lapse of two days, he was brought into Steeven's Hospital, and the artery tied immediately on his admission. He had lost a large quantity of blood before he came into hospital, but recovered much sooner than could have been expected, and continued in tolerably good health for about seven months after the accident, when he was suddenly seized with bleeding from the gums of the incisor teeth of the upper jaw, which continued for three weeks. He was now readmitted into hospital, and appeared almost exsanguine, and was obliged to be kept in the horizontal position to prevent fainting. The bleeding was obstinate. The treatment adopted in this attack consisted of astringent lotions and pressure applied to the gums; the internal remedies consisted of infusion of roses, sulphate of alum, and tincture of digitalis. On his return home the patient was attacked with fever, accompanied by delirium. After his recovery his parents sent him to the country, where he rapidly improved in health; the recovery was so remarkable that at the expiration of two months he was taken home, all apprehensions of a future attack being removed. The father and mother were, however, sadly disappointed, for he was little more than four months in town when he began to lose his appetite, flesh, and strength. While in this state of declining health he was seized with a pain and swelling in the calf of the left leg. The swelled parts were black and yellow, presenting all the appearance of an ecchymosis from an injury of some days' standing. The mother said that she often observed black spots on different parts of his body which soon disappeared. He was free from hæmorrhage. Dr. W. ordered a cold lotion to be applied, and a mild purgative combined with bitters. The swelling and blackness had scarcely disappeared when he complained of pain in his head, which was succeeded by a bleeding from both nostrils. This attack of epistaxis was of five days' duration before Dr. W. saw him. The mother applied several popular remedies at home, and was induced to postpone seeking medical aid from day to day, owing to occa-

* Dublin Journal, May, 1841.

sional cessation of the bleeding for short intervals. The blood coagulated this time though the child was very weak and pale. Plugs of coagulated blood were formed now and then in the anterior nares; when this took place the blood passed into the pharynx and mouth. The epistaxis gradually subsided. The alarm which this poor little afflicted boy suffered after every attack of bleeding had not had time to subside, when a violent pain struck him in the left thigh; a swelling of the whole thigh soon took place. There was now no discoloration of the skin; he could not bear the swollen part to be handled in the gentlest manner, nor could he move that limb in consequence of the pain. He lay with the knee bent and the thigh flexed on the pelvis, and complained of starting and throbbing of the limb. There was a high degree of symptomatic fever. About the third day the pain abated considerably; the fever and swelling were now a good deal reduced; the limb became black and yellow, presenting an ecchymosed appearance. Before he was sufficiently recovered to leave his bed, the thumb and fore-finger of his right hand became painful and swelled, and in two or three days assumed a black and yellow colour. Since this attack, which occurred about the middle of July, he has had no regular medical treatment, and the disease is still unsubdued. He is now afflicted with a diarrhoea, but there is no bloody discharge from the bowels. His mother says that the contents of his bowels flow from him with great force, small quantities of blood come from both nostrils about every ten days. There are a few black spots on the trunk and arms about the size of a silver fourpence. At the last date of Dr. W.'s report, the boy was taking decoction of logwood with alum.

The father and mother are healthy. A brother and two sisters are also healthy. A sister of the mother's lost two boys from hæmorrhage, one, about four months old, died of bleeding from the gums after they were lanced; the other bled to death from an incision into an ecchymosed tumour produced by a fall.

Spirit of the British and American Periodicals &c.

ON THE DIAGNOSIS OF ABDOMINAL INFLAMMATIONS. By W.
GRIFFIN, M.D., &c.*

Dr. Griffin has on a former occasion directed attention to the fact, that inflammatory, or other affections of the spinal cord, or of its nerves, at their origin, more frequently simulate abdominal and thoracic inflammations, and are more frequently mistaken and maltreated, than is at all imagined.

He reasons thus. There are three effects very common to inflammation, or disorder in the spinal cord, or at the trunks of its nerves. 1st, superficial tenderness, more or less exquisite, and either limited to the integument immediately over or about the affected portion of the cord, or extending thence to the front of the abdomen or thorax, in the direction of the spinal nerves; or occupying the whole cutaneous surface of those parts of the body, which are below the portion of the cord affected. 2ndly, pain either close to the affected portion of the cord, or at the extremities of the nerves, which have their origin there; or in the ganglionic nerves supplying the viscera, which have connexion with that portion of the cord. 3rdly, loss of power evinced in partial or complete palsy

* Dublin Journal, May, 1841.

of the parts or organs, to which the affected nerves are distributed. These effects often occur simultaneously, but any one of them may also occur independently of the existence of the others, offering very strong evidence, that the sensibility of the surface or skin, and that which exists in internal organs, is dependent upon nerves, which, though sentient, are as distinct from one another, as they are from those on which the power of motion depends. Keeping these ordinary effects of disorder of the spinal cord in view, it must appear obvious, when we detect soreness or tenderness on pressure, in the region of the liver or spleen, or of the lower abdominal viscera, how important and essential it is for us to ascertain whether the soreness be superficial or deep seated, which we can almost always do by careful examination. Again, when pain is complained of in the region of the liver, or middle or lower parts of the abdomen, how necessary is it to ascertain, whether, as in the case of soreness, it be superficial; and, if deep seated, whether it be merely an affection of the nerves of the part, and probably connected with some affection of the adjoining portion of the spinal cord, or whether the internal organ itself be in a state of acute or chronic inflammation. Finally, if there be oppression in breathing, whether it arises from deficient action in the respiratory nerves, and, as a consequence, imperfect action of the respiratory muscles, or imperfect performance of the process of oxygenation of the blood in the lungs; or from actual inflammation, or organic disease of the mucous membrane, or parenchyma of these organs.—Or if there be obstinate constipation of bowels, whether it depends on spasm, or enteric inflammation; or whether purely on deficient power, or partial palsy of the muscular fibres of the intestines.

Dr. Griffin relates two highly interesting cases, and follows them up with this conclusion,—*that*,

In determining the diagnosis of abdominal inflammation, where both pain and tenderness on pressure exist, we should always endeavour to ascertain:

1st. Whether there be any pain or tenderness on pressure in the corresponding portion of the spinal column; because, if there be, although it may not absolutely decide, whether inflammation be present or not; it is quite sufficient to account for both the pain and tenderness, without assuming the existence of any inflammation.

2ndly. Whether if there be no spinal tenderness or pain, the soreness of the abdomen be superficial or deep seated, which may be ascertained with tolerable certainty in all cases by an examination directed to that end. And whether, if both superficial and deep-seated, as it usually is, in peritoneal inflammation, gentle, steady pressure with the flat of the hand can be easier borne, than with the points of the fingers. In pain and soreness from affection of the spinal nerves it commonly can be so borne, while in peritonitis every kind of pressure, and even the weight of the bed-clothes, is very distressing.

3rdly. Whether the boundaries of the pain or soreness extend beyond what the suspected inflammation could produce. Thus, if inflammation of the liver be suspected, and we find the soreness extending to the spine of the ilium, or groin, or to the opposite side of the abdomen to which the liver does not extend, it is obvious, the soreness cannot be attributable to mere disease of that organ. Again, if the whole abdomen be tender to the touch in a case otherwise closely resembling peritonitis, and we find the tenderness is not confined to the abdomen, but extends over the hips and lower extremities, it is obvious, we can attach no importance to the abdominal soreness as a sign of inflammation.

Finally, it should be recollected that constipation may depend on mere loss of power in the intestinal nerves, as well as on spasm, obstruction, or inflammation, as the treatment in each case must necessarily be modified, or directed by the supposed cause of this symptom.

IS THE REPRESENTATIVE SYSTEM ADAPTED FOR MEDICAL INSTITUTIONS? *

The following are the opinions of our Dublin contemporary on this head :—

"We do not profess to be politicians, or to deal with the question of representation, either in parliament, or in municipal corporations; but of *this we are certain, that the representative system is not at all calculated for medical institutions.* To say that the system would be a mere experiment, is comparatively a trivial objection; every anticipation must be as to the probability of direct mischief arising from such a proceeding. At present there is unfortunately but too much discord and display of bad feeling in our profession; but, as yet, party spirit and politics have had little or nothing to do with the matter. Introduce, however, the representative system, and every town in the empire, (in Ireland at least,) will be the scene of medico-political anarchy, and the far-lauded "Faculty" will merely be the arena for the medical demagogue; for it requires but little penetration to foresee, that impudence and blustering, and not professional eminence, would be the passport to a seat in the new assembly. Politics and medical reputation are in general heterogeneous articles, and the politician is rarely a skilful, or, at least, an employed practitioner; yet it is precisely such a character that would qualify him, under the representative system. If medical men are to steer clear of politics, and this seems to be agreed on, let them have nothing to do with representatives, and being represented. The best judges view elections in medical institutions, although sometimes necessary, as necessary evils; and consider, that the fewer they are, the better for the welfare of the establishment."

TWO CASES OF GLANDERS IN THE HUMAN SUBJECT.†

We are induced to notice these two cases, because it would appear that the symptoms resulting from inoculation of the human subject with glandered matter differ materially in different instances, and an acquaintance with those differences is requisite. Many persons seem to imagine that a set of distinct and specific symptoms exist, and that any departure from the standard is, pro tanto, evidence that the complaint is not glanders.

CASE 1.—*Report of a Case, by J. B. Tytler, Esq.*

Charles Higge, a stout young cab-driver was admitted into the Westminster Hospital on the 16th June, having been ill for five weeks, with severe rheumatism, pains of the legs and arms, increased at night, but without redness or swelling of the joints; the tongue furred in the centre; pulse very frequent; bowels rather confined. About three weeks ago he was bled and blistered, and felt some relief. He had three several abscesses in the lower extremities. He was treated by warm bathing, diaphoretics, and regulation of the bowels, and appeared to be making some progress toward recovery, until 23d June, when he complained of severe pain in the left leg, and swelling of the knee, with muscular pains of the chest unaccompanied by any marked constitutional symptoms. Relief was obtained from mustard cataplasms to the knee, and he continued under the former treatment, without marked alteration, till the 29th. He complains of violent pain in the head, and has had a rigor, followed by heat and fever. Ordered eight leeches to the nape of the neck, and saline purgatives, with antimony, every six hours.

* Dublin Journal, Jan. 1841.

† Edinburgh Monthly Journal, June, 1841.

July 2d. He has again experienced some relief: the head has been shaved, and is easier; some patches of inflammation appear on the scalp. Ordered to continue the saline purgatives.

4th. An extensive but very flat carbuncle has formed on the vertex, and having been freely incised, is dressed with resinous ointment, and poulticed. There is considerable fever.

5th. Another carbuncle has formed on the left eye-brow. The right eye-lid and cheek are much swollen and cracked in several places, discharging an extremely fetid sanies. The scalp looks erysipelatous, and is dusted with flour, and covered with cotton wool. The pulse is quick and weak; and the breathing hurried. He complains of sore throat. He takes wine and cinchona.

6th. The throat is now extremely sore: the tongue, which had been usually pretty moist, is parched and red; breath fetid; some offensive discharge from the right nostril; pulse very rapid and small. On examining the throat, many irregular yellow ulcerated patches are seen. Wine and bark continued.

7th. A number of pustules have appeared on the arms and legs; the throat is more ulcerated, and the right eye closed by the swelling; the sanious discharge continues. He has fallen into a low muttering delirium.

8th. All the symptoms are aggravated; and his occupation having given rise to suspicions of glanders, which were confirmed by persons who had seen the disease in the human subject, his friends were minutely examined, and now acknowledged that not only had he been working about a glandered horse, but that a fellow-servant had died recently from the disease, by infection from the same animal. The horse also died. The patient himself died at 3, a. m. On examination 10 hours after death, the fauces were found coated with sanious matter, which had collected about the angle of the jaws, and flowed into the trachea and gullet. The palate and fauces, with the posterior nares were sloughy; a small ulcerated patch existed in the lining membrane of the trachea, just opposite the cricoid cartilage, and the larynx was generally much inflamed. The thoracic and abdominal viscera were healthy; the brain was not examined.

This case seems to have lasted long, and, for forty-eight days, the symptoms were very ill-defined.

CASE 2.—Report of a Case of Glanders in the Human Subject. By Alexander Graham, Esq.

"J. S. a carter, aged seventeen, consulted me on the 2nd February 1840, about a pain he had felt for some days previous in the index finger of the right hand, which was swelled, and slightly inflamed. The skin covering the first phalanx was of a livid colour, and there was fluctuation underneath. He had a considerable degree of febrile irritation. On opening the finger, a very small quantity of thin greyish-coloured fluid escaped, without affording any relief from pain. The soft parts appeared dead, but no line of separation was observable, nor indeed for many days after were there any symptoms of impending danger. He continued in nearly the same state till the evening of the fifth day from the time I first saw him, when the soft parts covering the first phalanx came off during the dressing, leaving the bone exposed. On removing the bone, which was easily done, without causing the least pain to the patient, the part presented the appearance of a very healthy-looking sore, and the redness and swelling of the hand and finger entirely disappeared. On the following day, however, a new and more alarming train of phenomena presented themselves. During the preceding night, he experienced a great tendency to rigors; there was increased pyrexia, and he complained of a pain over the spine of the left tibia, near its distal extremity. At this place there was a small circumscribed tumor, which was very painful to the touch. The integuments were slightly inflamed, and an obscure fluctuation was also observed. On interrogating him and his friends closely re-

garding the sore on his finger, it was discovered that he had been driving a glandered horse, and that it was possible it might have been produced by his finger, which was scratched, coming into contact with the diseased animal.

On the eighth day the tumor over the spine of the tibia had nearly disappeared, but he experienced severe and constant pain from the site of the swelling along the inside of his leg, as far as the middle of the thigh, which was tense and swelled. He shewed much restlessness and anxiety; his stools were of a darkish-green color, thin, and fetid; his tongue was loaded, and he had great thirst. The pulse was quick and small.

On the following day (the ninth) his finger appeared to be healing; but he informed me that he had passed a very restless night, without sleep, and that the pain of his leg was more severe. The absorbents now became red and hard, and their course could be traced distinctly as far as the knee joint. The leg and thigh were more swelled, and the tumor was hardly perceptible. The pulse was 120, and small, the skin hot and dry, and the tongue very foul.

Next day I found the leg and thigh more swelled, and found it necessary to make several incisions on the inside of the leg. They did not bleed much, but nevertheless afforded the patient some relief. His bowels were open, and the stools were fetid. From this time he became gradually worse; and on the evening of the day before that on which he died, (the twelfth), when I visited him in company of a professional friend, we found a general tumefaction of the whole body, but mostly of the left side. His head and face were much enlarged, and, in addition to this increased swelling, there were all over his body and face several distinct and prominent pustules, resembling variola, none of which were visible the preceding day. The inside of the leg and thigh were also covered with a great number of gangrenous spots, of irregular size and shape, ranging from the bulk of a split pea to that of a shilling, but without vesication, or the least appearance of separation. These gradually increased in size and number until he died, on the 13th February.

During the whole course of his disease, and even up to the very close of it, there was not the least manifestation of any disturbance in the sensorial functions."

RE-UNION OF A SEPARATED PORTION OF FINGER. By A.
GRAHAM, Esq. Falkirk.*

A joiner of middle age, and apparently healthy constitution, while splitting wood with an axe, cut through the index finger of his left hand, between the first and second phalanges. He lifted the separated part from among the shavings, and immediately walked a few yards to a place where Mr. Graham happened to be. Being asked for the amputated portion, he took it from his waistcoat pocket, and laid it on the table. Mr. Graham fixed it on by two sutures, and adhesive strap, and on the fourth or fifth day, a pair of scissors being applied to the point of the finger, he distinctly felt them. Complete union took place, with restoration of the powers of the part which had been separated.

CASES AND OBSERVATIONS ON DIABETES. By ROBERT CHRISTISON,
M.D. &c. &c.†

A long and valuable paper is contributed to our Scottish contemporary by Dr.

* Edin. Monthly Journal, April, 1841.

† Ibid.

Christison. He relates four cases. We have not space for these, and shall merely extract such observations as may strike us as instructive.

1. *Sugar not always discoverable in Diabetic Blood.*—The first case, says Dr. C., is a good example in support of the statement lately advanced by Dr. Macgregor, that in diabetes the urea is frequently not defective, as previous experiments seemed always to indicate, but is even sometimes absolutely in excess. It is at variance, on the other hand, with an equally important statement by the same gentleman, that sugar may be always detected in the blood. The search for sugar was made in this instance with very great care, and by a test which I have found capable of detecting a single grain of diabetic sugar in a thousand grains of the densest healthy urine. Yet I may say, that not a trace was indicated; for the trivial evolution of gas might have come from the water, or from the yeast itself! On another occasion, about eighteen months before, I was not more successful. It would appear, then, that the presence of sugar in the blood is not a general fact, and therefore can scarce form a necessary step in those functional derangements which constitute the pathology of diabetes.

2. *Voracious Appetite not constant.*—This patient, when put on animal diet, consumed less real nutriment than is contained in the diet which has been found necessary for prisoners not subjected to hard work, and which amounts on an average to twenty-five ounces, partly vegetable and partly animal.

3. *Strictly Animal Diet requisite.*—If a sensible amelioration is to be looked for with any confidence, the injunctions of Rollo and his imitators, to enforce a rigorous animal diet, must often be faithfully followed. This object it is by no means so difficult to accomplish as might be thought, provided some variety be allowed, and articles be avoided which are hard of digestion, or abound too much in fat. In the present case no very decided amendment was observed for two months under a general diet; but under a pure animal diet, which, so long as the man was under my notice, seemed to be followed by him without reluctance and with fidelity, the characters of the urine improved essentially in a few days; and the improvement was afterwards steadily maintained.

4. *Quantity of Solids in the Urine to be rigorously determined.*—This appears the only true criterion of the progress of a case. The quantity of the urine taken singly is a fallacious criterion, yet it is often trusted to in practice. Though reduced in quantity, the urine may be increased in density; and in that case there may be no real amendment in the essential character of the disease,—the preternatural discharge of solids by this secretion. The quantity and density ought always to be taken together. For greater accuracy, it is well to calculate the total solids from these data, by the following formula. If D' represent the difference between the density of the urine and that of water, and Q the number of ounces discharged in twenty-four hours, the daily discharge of solids by the urine is $QD' \times 0.00233$.—Libr. of Prac. Medicine, iv. 248.

5. *Mode of ascertaining the Presence of Urea.*—In commenting on Case 2, Dr. Christison points out the abundance of urea in the urine, and proceeds:—For more than ten years I have been persuaded of its frequent presence, and have repeatedly proved its existence during my clinical lectures. During that period I have never failed to detect it. As at least five-and-twenty cases must have been examined by me in the interval, and on two recent occasions I succeeded in finding it where others had failed, it seems not improbable that urea is always present. The plan I have followed in searching for it, is to concentrate the urine, when quite recent, over the vapour-bath to an eighth, but not farther, and then to add an equal volume of nitric acid previously diluted with its own

weight of water, and allowed to cool. Sometimes the nitrate of urea does not form for a few hours, or not till during the night, to the cold of which the mixture ought always to be exposed before we can venture to conclude, from the absence of crystallization, that urea is wanting. I have repeatedly known the nitric acid fail to act where the urine had been evaporated to dryness, or to a thick syrup, and then redissolved, even though the evaporation had been conducted in the vapour-bath. Although I am inclined to think that urea is always present, it is by no means always in excess, as in this and the preceding case. On the contrary, as will be seen from the fourth case, it is sometimes very defective.

6. *Caution with regard to the Determination of Diabetes Mellitus. Precautions necessary.*—"The opinions which prevail at present as to the sanability of *diabetes mellitus* are contradictory. A few authors maintain, that, although very untractable, the disease may be cured in a reasonable proportion of cases: but the greater number of recent authorities state, as the result of their experience, that it is sooner or later, but inevitably, mortal; and my own observation hitherto has corresponded with that doctrine. The discrepancy may be in part explained in two ways. In the first place, some practitioners seem much too easily satisfied as to the evidence required to establish a cure of a case of diabetes. If they succeed in reducing the quantity of urine to three pints daily, in lowering its density to 1030, in removing the saccharine taste, and in restoring, as they will have it, the urea, a recovery is supposed to be accomplished; the patient is dismissed, probably from an hospital; and because his subsequent fate is never heard of, he is considered to have sustained a radical cure. I need not say how fallacious the last circumstance often proves. What should be particularly considered, however, is, that sugar may be abundantly present in such urine as that now described, and that it cannot justly be inferred to be wanting, unless the urine resist the test of fermentation with yeast about the temperature of 80°. But secondly, it may be strongly suspected that some reported cures have from first to last been merely cases of *diabetes insipidus*. It is difficult to account otherwise for the density of the urine being repeatedly stated so low as 1020, 1015, and even 1010. I will not deny that such a state of the urine is possible in true saccharine diabetes. I can only say that I have never but once seen it so low in density as 1021; and this was after the patient had been long under a regulated animal diet, along with opium. Such being the fact, I cannot but entertain doubts as to the genuine nature of a case of alleged *diabetes mellitus* with the urine of very low density, so long as absolute evidence is not furnished of sugar being present; and in some of the cases alluded to, reliance has been placed entirely on the taste of the urine, its odour, and the appearance of its extract, which are all fallacious criterions. I have met lately with two instances where the nature of the symptoms was thus for some time misunderstood. In one of them, a woman who was thought to be diabetic because the urine flowed profusely and seemed to have a sweet taste, its density proved to be only 1010. Being consequently led to doubt the soundness of the opinion previously formed as to her complaints, I proceeded to test the urine with yeast, and found that it did not contain a particle of sugar. The other case was that of a gentleman not many weeks ill, who presented all the general signs of saccharine diabetes, and passed a large quantity of urine which was thought to possess a sweetish taste and odour. I confess that at first, so long as my attention was confined to the general symptoms and sensible qualities of the urine, I felt inclined to concur with the opinion entertained that this was a genuine case of *diabetes mellitus*. But on examining the urine with care, I found its density was only 1004.5; urea was present in a proportion commensurate with its low density; yeast did not cause any evolution of carbonic acid at 80°; and nitric acid, digested for some hours with the urine in a moderate state of concentration, did

not produce any oxalic acid. Both of these cases, then, were examples of *diabetes insipidus*, and as such were much more susceptible of cure."

At the same time, Dr. Christison is far from disputing the possibility of cure, if the treatment be commenced at an early period.

7. *Case III.* was a fatal one, granular disease of the kidney supervening. On this hint Dr. Christison speaks. At a time, says he, when the characters of diabetes were all accumulated in their severest form, the disease underwent a total change. The diabetic properties of the urine by degrees vanished; characters the very opposite began to present themselves, and the state peculiar to granular disease of the kidneys was soon established; the patient lingered in this condition for a long period, the urine being for some months about the healthy average in quantity, 1010 in density, albuminous, and entirely without sugar; death ensued from obstinate diarrhoea, one of the secondary affections most frequently observed in Edinburgh during granular disease of the kidneys; and in the dead body dropsical effusion into the cavities, another secondary affection, was also found, together with extensive granular degeneration of the renal textures. It is well known that, as death draws nigh in saccharine diabetes, the urine for a few days before death ceases to contain sugar, and returns nearly to its healthy state. But here is an instance where for several months before death, and to all appearance without any connexion with the treatment, all the remarkable properties of the urine which characterise diabetes, were completely and permanently removed. The argument drawn from the former class of facts, in favour of this disease being functional only, so far as concerns the affection of the kidneys, is thus, he thinks, not a little strengthened. "It is well to add," he continues, "that on several other occasions I have observed diabetic urine more or less albuminous. In one of these, the impregnation with albumen was considerable, and the kidneys were found after death in an advanced state of granular degeneration. But this case was not under my own care, and I cannot now obtain an account of it."

8. *Rapidly Fatal Diabetes—Small Amount of Urea.*—"It is seldom," observes Dr. C., "that the disease runs its full course, not curtailed by some incidental acute disorder, in the short space of eighteen months, which seems to have been the extreme limit here. The case is obviously a remarkable instance of that kind which has supplied some authors with a basis for the doctrine, that diabetes mellitus originates in disorder of the functions of the stomach and intestines. It commenced abruptly after an acute affection of that nature. Such occurrences, however, are rare. I have paid particular attention to this point for some years past; and every case I have myself attended for the last seven years was carefully ascertained to have begun without any precursory derangement of digestion. The characters of the urine corresponded with what I have called the acute nature of the attack; and departed more from the healthy state than in any instance I have examined before or since. I suspect that all along the urea must have been very greatly reduced, not merely in its proportion to the other solids, but likewise in its total daily amount. It was so at least towards the close, even at a time when the urine showed a tendency to return to its healthy condition; for on the twentieth and sixteenth days before death, its total amount was only 294 and 130 grains in twenty-four hours, the higher of which sums is a trifle more than half the average of full health in a robust well-fed man. I had never previously met with an instance in which sugar of a snow-white colour, and nearly pure, could be so easily obtained by simple evaporation.* The rapid

* I have recently met with a similar instance, which also, like that detailed above, commenced abruptly, and has presented an unusually acute character.

change which often takes place in the properties of the urine before death in diabetes, when unmodified by incidental diseases, is here well exemplified. In a few days the urine fell from 320 to 32 ounces; its density also sunk; and its urea became so abundant, as to exceed the daily discharge in a state of health, being on one occasion so high as 754 grains. On the 11th March I found the urine characteristically diabetic, as usual. When next day, in the absence of Dr. Peebles, his clinical clerk showed me amber-coloured urine, and reported that it had fallen in amount to a few pints, I felt assured from previous experience, that the patient, though to appearance more comfortable, and pleased with the change, was going to sink; and such was the speedy result."

We should observe that the patient died with tubercular deposits and excavations in the lungs.

VACCINE CRUSTS THE MOST EFFECTUAL PACKAGES FOR THE PRESERVATION OF THE VACCINE VIRUS. By JOHN EPPS, M.D., Director of the Royal Jennerian and London Vaccine Institution.

"The vaccine pock is similar to the *vitreous* humour occupying the largest portion of the chamber of the eye. It is a compages of vessels with their contained fluid. The *aqueous* humour of the eye escapes by a single puncture, like the virus of the vaccine pock: hence the indurated pock, the scab or crust of the vaccine pock, contains the dried matter in its cells, which, being broken down, and moistened with the wetted point of the lancet, has been found effective in hot climates, when attempts to preserve the vaccine ichor in other forms have failed. The crusts or scabs we have been able to collect in this country, we learn, by letters from the East and West Indies, have withstood the heat of their vertical sun, and spread protection through the plantations, and the surrounding districts.

"N.B.—These crusts, when levigated and moistened, and worked into a fine pulp, have been used by many practitioners in tropical climates with the most signal success. Mr. Johnston, the late secretary of the institution, was the first who suggested this plan."—*Lancet*, March 13, 1841.

DR. GUERIN ON THE GENERAL CHARACTERS OF RACHITIS.

Mr. Bigger, Surgeon to the Adelaide Hospital, has translated a valuable memoir of Guerin's for our contemporary of Dublin.* The memoir is long and will richly repay perusal. We must content ourselves with the general conclusions at which M. Guerin has arrived. They are as follows:—

1st. Rachitis is a general or constitutional disease of childhood, characterized by the alteration or the perversion, or even the suspension of the work of development and of reparation in the organism, and principally in the osseous system.

2nd. The progress of rachitis, considered as an affection of the skeleton, in-

In this case the urine was 1035·5 in density, 218 ounces in daily quantity, and all but colourless. The daily discharge of urea was only 135 grains. When evaporated to the consistence of a moderately thick syrup, the residuum, under exposure for a few days to a cold of 32°, became a congeries of snow-white granular crystals.

* Dublin Journal, January, 1841.

cludes three distinct stages: that of *incubation* or *effusion*, of *deformation*, and of *resolution* or *eburnation*. To each of these periods, corresponding peculiar symptoms belong, and alterations peculiar to the osseous tissue.

3rd. The influence of rachitis on the osseous tissue is shewn by four distinct orders of facts; deformation, alteration of tissue, arrest of development, and retardation of ossification.

4th. Rachitic deformation of the skeleton is developed in succession, from below upwards, from the bones of the legs to the thighs, from the thighs to the pelvis, then successively or simultaneously, the different parts of the upper extremities, the thorax, and lastly, the spinal column and the cranium. The degree of deformity accords with the order of development, whence it follows, that rachitic deformity of any portion of the skeleton implies always deformity of the parts situated below it.

5th. Most of the bones of the rachitic skeleton are always relatively less developed, in length and breadth, than the bones of the healthy skeleton; this reduction, which is independent of deformity, still follows the same law: that is to say, successively from below upwards, and gradually from above downwards; the proportion, according to which all parts of the skeleton are abbreviated from below upwards, can be expressed by a regular series of numerals, which admits of a very close deduction of the dimensions of the whole skeleton, that of one bone being known.

6th. The maximum reduction of the lower extremities, compared with that of the upper, establishes between them relations of length, which repeat and perpetuate those of the age when the disease was first developed.

7th. The reduction of the bones in rachitic adults is the compound result of arrest of development in the osseous system, under the direct influence of the disease, and of retardation of growth when the disease has ceased.

8th. The texture of rachitic bones presents characters totally different, according as they are observed during each of the three stages, or at the beginning or end of each stage, or according to the chronicity or intensity of the affection.

9th. During the stage of incubation of rachitis, an effusion of sanguinolent matter occurs into all the interstices of the osseous tissue, into the cells of the spongy tissue, the medullary canal, between the periosteum and the bone, between the concentric laminae of the shaft, between the epiphyses and the shaft, between the points of ossification in the epiphysis and their cells, in the short and flat bones, in a word, in all parts of the skeleton, and in all points of the osseous tissue, where branches of the nutritive vessels are distributed; from this effusion results the duplication of the parts composing the tissue, and the swelling and puffing out of different portions of the skeleton.

10th. During the second stage of rachitis, (deformation,) whilst the web-work of the osseous tissue loses its consistence and becomes softer, the matter which continues to infiltrate all the interstices of the bony tissue begins to become organized; it passes successively from the cellulo-vascular, to the cellulo-spongy form; this adventitious matter abounds principally between the periosteum and the bone, between the medullary membrane and the innermost bony layer, and in the short and flat bones, between the periosteum and the bone, and between all the laminae.

11th. During the third stage, (resolution,) the adventitious tissue in the long bones, and in some of the short and flat bones, passes into the state of compact tissue, and appears to become confounded with the old tissue which recovers its former hardness; this addition of a new tissue to the old gives a very great degree of density, and above all, a very great breadth to some parts of the bones, which were the seat of the organization of new spongy tissue in the preceding period.

12th. In that state which I have denominated rachitic consumption, and which results from an exaggerated degree of the affection, the duplication and distancing of the parts composing the osseous tissue has been such, that their union never

takes place, and the organization of the effusion does not occur. In this case the osseous partitions and laminae remain apart, and the consistence of the primitive bone is so much reduced, that there sometimes only remains a thin shell of the external part of the bone.

13th. The texture of rachitic bones in adults, when the disease has ended, presents a compactness and hardness, greater than in the natural state. This is called rachitic *eburnation*, when there is no longer any means of distinguishing the traces of union between the old and the new bone.

14th. Those deformities of the spine, which happen towards the age of puberty, and all those which have not been preceded by deformity of the legs, are not of a rachitic nature.

15th. Rachitis is an affection essentially different from *scrofula* or from *tubercular affection of the bones*, as well as from *all kinds of ramollissement which occurs in adults*; for these latter, the term *osteomalacie* has been exclusively reserved.

COMPRESSION OF THE HEART. *

Mr. Adams brought this case before the Pathological Society of Dublin.

Patrick Devine, aged twenty-six, admitted into the Whitworth Hospital, for an attack of chronic bronchitis, accompanied by empyema. The disease did not yield to treatment, although active measures were employed; the cough was still severe, and the quantity of fluid in the chest seemed increasing. After some time he was exposed to cold and got much worse; the dyspnoea increased, accompanied by lividity of face, swelling of the jugular veins and inability to expectorate. About this period also he was attacked with erysipelas of the right arm, on which a large gangrenous spot subsequently made its appearance. On the 19th day after admission Mr. Adams found him sitting up in bed, gasping for breath, holding by the sides of his bedstead; his eye-balls protruded, his face livid and bathed in a cold perspiration. A redish serum was flowing from his mouth, and his respiration was inaudible, except at the upper part of one lung. His belly was swollen and tympanitic. He remained for about eighteen hours in this state, and died the following night. On examination after death, both pleurae, but particularly the left one, were filled with bloody serum. The left lung was adherent to the posterior part of the pleura, compressed and carnified. The respiratory process seemed to be carried on wholly by the upper third of the right lung. The heart lay compressed and quite horizontal in its direction, the right ventricle folded on itself, and the whole organ compressed and flattened. Mr. Adams here exhibited the heart, the right ventricle of which, as well as the pulmonary artery, was quite empty, the ventricle itself being thrown into three rounded folds. This was the chief peculiarity of the case. Mr. Adams then exhibited the preparation, as also a cast taken from it, and observed, that this was a condition of the heart he had never before witnessed. He also remarked that the appearance of the parts would lead any one who examined them to infer that this condition was not one of recent occurrence. The parts of the heart which lay close to each other in the line of the folds were firm and of a parboiled aspect, shewing that the folds were of some standing. There was one symptom observed in this patient, viz., intermission of the pulse. How far this condition of the heart might explain it, or how far it was connected with the tympanitic state of the abdomen, Mr. Adams could not say, but he had frequently observed intermission of the pulse in connexion with abdominal tympani-

* Dublin Journal, May, 1841.

nites. He was inclined, however, to think that for some time before death the right ventricle and the pulmonary artery had ceased to perform any functions.

CURE OF SPINA BIFIDA.*

Sir Philip Crampton brought this subject before the Society. He alluded to Sir A. Cooper's paper on the treatment of the disorder in the second volume of the *Medico-Chirurgical Transactions*. Sir Astley then detailed the treatment and results of three cases. The first was that of an infant two days old, in which he found a small tumour of the lumbar region, capable of being obliterated by pressure, the whole of the fluid passing into the vertebral canal. It immediately occurred to him, that if the fluid could be kept in, while the process of consolidation of the bones of the spine went on, a cure might be effected. Having placed the child in a prone position, he made a cast of plaster of Paris, adapted for making due pressure on the tumour, and secured this by proper bandages. He afterwards substituted for this a pad, from which much less inconvenience was experienced. At the age of eight years the child was running about and in good health, still wearing the pad, but not cured. The next case was one in which he attempted to confine the fluid by means of pressure, but having failed in this, he had recourse to a plan of treatment founded on a principle introduced by Mr. Abernethy, in the treatment of psoas abscess. He made a small puncture in the tumour, and having evacuated a portion of the fluid, he then closed the aperture with adhesive plaster. This was done ten or fifteen times, and at each operation a quantity of fluid removed. This child ultimately recovered, the bones of the spine having closed, leaving behind a loose moveable sac, and when inspected by Drs. Marcet and Yellowly some years afterwards, was found to be quite well. This, however, was the only successful case which occurred in Sir A. Cooper's practice. Another case of the same kind occurred in Sir Philip Crampton's practice. The operation of evacuating the tumour according to the mode employed by Sir A. Cooper, was performed twenty-two times, with some local irritation, but without any unfavorable or threatening symptoms. The sac gradually thickened, the consolidation of the bones went on, and in the course of seven months the cure was completed. The child is at present in good health, but has, as in Sir A. Cooper's case, a loose bag on its back. With respect to the spontaneous cure of the disease, Sir P. Crampton was not aware of any instance on record. In general the patients die at a very early age. He felt, therefore, extremely happy in having an opportunity of exhibiting to the Society an example of spontaneous cure in the person of a gentleman who had been recently under his care for another complaint. While examining his chest, Sir Philip Crampton detected the remains of the sac, originally the result of spina bifida, and as he expressed a wish to shew it to his professional brethren, the gentleman had in the kindest manner consented to come before the meeting, and exhibit the tumour. Sir Philip here shewed the sac, which extended over the lower dorsal and the lumbar vertebrae. The fissure in the vertebrae appeared to have been originally about three inches in length.

* Dublin Journal, May, 1841.

EXTRA-LIMITES.

NOTES ON THE MEDICAL TOPOGRAPHY OF ALSTON MOOR. By
W. Ewart, Esq.

THE vital existence of man, as well as that of all other organized beings, is acted upon and variously modified by surrounding influences—life being an assemblage of phenomena dependent not only on certain conditions belonging to the object which displays it, but on other states, likewise, of the locality where that object is placed, it must always be characterized by their conjoint peculiarities.

In studying the physiology and pathology of organization, the elements for consideration are numerous and diversified; and none amongst these are more deserving of attention than the cosmical and social. Man in his growth, habits, his health and disease, bears an evident impress of exterior agency—and as such, the influences of climate, social customs, and industrial pursuits, are every where to be traced.

Almost every country of the globe in its aggregate of human disease, manifests a phasis peculiar to itself.—Thus the inhabitants of one nation are the frequent prey of a disease which is never seen amongst the people of another, whilst the same disease, should it happen to be endemic in both, often derives a modification from some local agency. The causes of disease therefore, and their modifications as manifested in various situations, will require the medical enquirer, who attempts their study, to direct his eye perseveringly upon every element possessed by these capable of influencing in the least degree organic actions. And thus alone can a rational doctrine of hygiene applicable to each particular place be founded.

Not only do the well-defined climatic divisions of the earth produce peculiar aspects of disease, but the different localities likewise of the same country, even though separated by a few miles only, often manifest the same character—and this diversity will be found to be almost wholly assignable to some difference in physical and social particulars. Look for instance at the dissimilarity in the general features of disease to be met with among the cotton mills of Lancashire—so instrumental in the development of nervous excitability—to those found amongst vascular agriculturists. The latter again, residing in fertile valleys, or plains rich in vegetation, are often exposed to causes of disease which the mountaineer never meets with whilst he breathes the pure air of heaven as it sweeps along the bleak mountain side, which exhales no miasmata, and where contagion cannot lurk—yet he is not left without his share of the many diseases which man inherits.

The study of medical topography is far from being uninteresting, not only as regards its bearings upon the prevention and treatment of disease, but as constituting an important branch likewise of natural history. Though much obscurity as yet hangs over the essential nature of vital phenomena, and the laws by which they are subject to modification by external agency, yet we are often enabled to trace clearly the effects of meteorological operation, and that of other material things, though their *modus operandi* may remain a mystery—thus heat and cold, drought and moisture, geological and botanic character, often force themselves upon the attention as evidently implicated in the modifying of vital actions, and the production of disease.

Alston-moor, famous for several hundred years for the produce of its lead mines, forms the eastern extremity of Cumberland, where it joins the counties of Durham and Northumberland; it constitutes a part of that bleak mountain range of moorland, called the “Penine Chain,” which stretches far away in a southerly direction from the borders of Scotland. Cropfell, the highest elevation

of that range, bounds it on the West, from whence it stretches for some miles to the East, in a series of undulating bleak barren *fells*, at the bases of which, in villages, or isolated cottages, are scattered the abodes of the lead miners—situated as it is, in a part of the island of no great breadth between the German Ocean and Irish Sea, and at a considerable height—perhaps above any other inhabited place in England—its climate is characterized by coldness and moisture, and by frequent and sudden alternations. Changes of temperature are particularly frequent and striking. In the course of twenty-four hours these may often be witnessed to supervene in the most abrupt manner—intense frosts succeeding dripping thaws, or vice versâ. Its surface is almost altogether unprotected by plantations, allowing the winds to sweep over it unbridled, and its valleys are open and thoroughly ventilated.

On a general view of the diseases which prevail in Alston-Moor, it is instantly evident that it enjoys an eminent freedom from fevers of contagious character. These seldom indeed originate amongst its inhabitants, and when they are brought by some infected person from any other situation, they generally die with the death of their bearer, or disappear with his recovery.—Once during the past year have typhus fever and small-pox been respectively imported from a distance, but they immediately became extinct, and without any particular precautions being had recourse to for the purpose of effecting such a result—as if the climate of Alston-Moor was fatal to their prevalence. In the same way, when sporadic cases of the kind do occur, they show almost no tendency to spread. This immunity from contagious disease, and hostility to its propagation, may perhaps in some degree be connected with the physical character of the country. The atmosphere seldom stagnates upon it, and the surface of its "*fells*" are for the most part covered with moss, the antiseptic qualities of which, in its continued carbonization, may have some effect in preserving the air free from a malarious constitution. This the writer, at least, in his limited experience, has sometimes observed, that people residing upon tracts of mossy country are singularly free from diseases of virulent contagious type. The effect here conjectured however requires the confirmation of more extensive observation.

The diseases which prevail most extensively in Alston-Moor are the inflammatory and neuralgic, though the former very much preponderate. During the very severe winter season in particular, inflammation, or diseases approaching to it in nature, affecting the dermoid, mucous, glandular and fibrous textures, are exceedingly abundant. Thus some one or other of such diseases as ophthalmia, tonsillitis, tracheitis, bronchitis, diarrhoea and rheumatism, with exanthematous and papular or pustular eruptions, are almost daily to be met with. Pulmonary tubercle too forms an important item in the aggregate of disease, and the climate seems to lend awful facilities to the progress of those processes, by which, in defiance of all medicine, it hurries its devoted victims to their graves. Parenchymatous inflammations likewise, such as cerebritis, pneumonia, hepatitis, &c. as in all other situations, are sometimes seen, as are also fevers of the remittent type amongst the younger class of people, but these form a trifling number in comparison with the former. Inflammation of the genito-urinary mucous membrane, particularly that species, the prime prophylactic of which is a sound morality, is by far the most scarce of all.

There are two diseases, which, though not exclusively confined to Alston-Moor, yet as evidently depending on local influences, may be perhaps worth a short consideration. These are the miners' bronchitis—in local phraseology the "grovers complaint"—and bronchocele. The former is a disease which sooner or later, and in one form or other, attacks almost all lead miners. It assumes various aspects according to the simplicity or complication in which it may be manifested. Its cause is the constant inhalation of minute irritating dust produced by blasting the various argillaceous, siliceous, or calcareous stratifications, through which the miner must work his way in his search for ore, and in work-

ing that ore when found. This breathing of an atmosphere loaded with irritating particles seems scarcely ever to be the *exciting* cause of acute inflammation, though it highly predisposes to it—the continued congestion produced by it, being easily developed into active inflammation by exposure to the common exciting causes. And when this has been once effected, it is too apt to continue more or less in a chronic form. But even though the miner should for many years escape an attack of acute bronchitis, the air which he daily respires for six or eight hours, loaded as it is in various degrees with impalpable physical irritants, will for the most part gradually produce a chronic bronchitis of a very intractable kind.

Almost all lead miners, after having pursued their employment for some time, especially in a badly ventilated mine, though in other respects in perfect health, are on any slight exertion affected with dyspnoea. On quickening their pace for instance, or ascending an eminence, their breathing becomes hurried and obstructed. This evidently arises from the congested state of the bronchial mucous membrane, and the secretion which it exudes, abnormal quantities of which are expectorated, generally tinged of a bluish cast by the powder that is inhaled in the mine. The miner may continue in this state for many years, subject perhaps to occasional slight aggravations from catarrhal attacks, but able without much inconvenience to pursue his avocations. At last, however, his cough becomes gradually more frequent and teasing. His appetite fails, especially in the morning, he frequently leaves his breakfast untouched, and sets out for the subterranean scene of his operations with feelings of languor and nausea. His dyspnoea is more urgent, which, with increasing debility, obliges him to rest repeatedly in walking even the distance of three quarters of a mile. His expectoration increases in quantity, and for the most part consists of frothy and puriform mucus, sometimes streaked with blood. His strength has now much declined, he is much emaciated, and his partially suffused countenance and purplish tinged lips indicate obstruction of the pulmonary circulation and mal-oxygenation of the blood. He is now unable to work, and the increasing severity of his ailments confines him to his house. His cough gets worse and worse, and there is more and more expectoration. Sonorous and mucous ronchi are very evident to the most inexperienced auscultator; but the several pulmonic regions sound generally clear enough on percussion. Hectic fever supervenes, debility increases, and from a few weeks to some months after relinquishing his employment, he sinks exhausted. Such is one form of bronchitic affection displayed by the lead miners of Alston-Moor.

Again, the miner after feeling a gradual impairment of health for some years, as already described, and continuing his employment, though from dyspnoea and debility very unfit to do so, is while still working suddenly seized with acute bronchitis, perhaps conjoined with pneumonia, and in two or three days droops asphyxiated.

In other cases, the miners, while still comparatively young, healthy, and able, are seized with acute bronchitis. By appropriate treatment this is sometimes completely subdued, allowing those who had been affected to return to their employment, but at other times, in spite of all remedies, it lapses into a chronic form. A sort of irritative fever continues to prey upon the system, the cough is very troublesome, and great quantities of bluish frothy and puriform mucus are expectorated, especially towards morning. The patient often dies exhausted in a few weeks or months. In two fatal cases of the latter kind which came under the writer's observation, there were expectorated, towards the end of their course, small earthy concretions. In one patient two or three small bits about the size of flattened pin's heads were ejected with the expectoration and grated upon his teeth. In the other, a much larger concretion, about the size of a pea, and of irregular shape, was coughed up, imbedded in a sputum, black and gelatinous looking in the centre, which was surrounded with matter of puriform appearance.

It was of a white colour, and seemed to have been moulded into the shape it possessed, being pyriform, and having one or two small projections blackened on the top. On treating it with dilute muriatic acid it was dissolved, disengaging minute bubbles of gas, indicating it to be the carbonate of lime. In the solution there floated small flocculi, which appeared to be animal matter that had constituted part of its composition. These concretions were no doubt the result of a depraved secretion in the pulmonary tissue, and had the patients not been cut off so early as they were, it is probable that in time they would have been the subjects of *manifest* tuberculous disease.

There are various other aspects of chronic bronchitic disease evinced by lead miners. Thus, some who have fortunately given up their mining occupations before any serious structural derangement had been produced in their bronchial apparatus, continue in after-life to display symptoms, more or less severe in various cases, of simple bronchial congestion, which seems of itself to have little effect in abridging the term of their existence. In other cases an attack of acute bronchitis results in the establishment of a persisting irremovable bronchorrhœa, characterized by dyspnoea, which has paroxysmal aggravations followed by a copious expectoration of a thin slightly viscid glairy mucus. This in one case, from the person's own account, has continued 15 years, since on exposure to cold he was seized with what, from the symptoms he describes as having attended it, must have been acute bronchitis. In some cases the miner, after having laboured under bronchial congestion for some time, as produced by his employment, has a severe attack of hæmoptysis, which leaves him much debilitated, and for the remainder of life he has dyspnoea accompanied with excessive irritability of the bronchial fibres, as evidenced by frequent attacks of a dry convulsive whistling cough consequent on the least excitement. Sometimes bronchial congestion is accompanied by spasmodic asthma. In such cases the usual dyspnoea is subject to sudden aggravations relievable by antispasmodics or warm coffee. Such is a very brief sketch of the various phases of the pulmonary complaints to which the lead miners of Alston-Moor are subject. Such diseases, I am given to understand, are much less prevalent now than they formerly were, which circumstance is ascribable to the improved ventilation of the mines, and to the praiseworthy exercise of their authority, by those who possess it, in the promotion of cleanliness and temperance amongst the miners.

As regards the treatment of these affections little need be said. In the more aggravated cases medicine avails but little in producing beneficial results, but in others of more incipient character, and particularly when accompanied by gastro-hepatic derangement, much benefit may be derived from a proper course of medicine. In such cases a mercurial purge, followed by a few doses of a combination of aloes, ext. hyoscam. and ant. tart. along with counter-irritation, have appeared very effective in relieving functional oppression and the congested state of the bronchial mucous membrane. The principal indication is, however, to remove the miner from the operation of the irritating inhalations which prove either directly or indirectly the cause of his complaints; but such can alone be done by the relinquishment of his employment, which necessity perhaps compels him to avoid until it is too late.

Bronchocele exists rather extensively amongst the inhabitants of Alston-Moor, which place has every claim to rank among the goitrous districts in England. It is principally to be seen affecting the female sex, at all ages from seven or eight years upwards. Only two cases in the male have come under the writer's notice, which however were, and still continue to be, tumors of no considerable development. In both cases the morbid enlargement is principally in the lateral lobes, forming two large unseemly projecting tumors on each side of the trachea. The connecting portion, though in some degree affected, is much less so than the other parts. A considerable reduction of size has been effected

by the external and internal use of the iodine treatment, though much remains as yet for it to accomplish.

Perhaps the most interesting portion of the whole medical history of bronchocele is that relating to its etiology. Very much obscurity as yet hangs over its exciting causes, for as the inquiry is surrounded with some difficulties, the researches of those who have directed attention to the subject, have done little for its elucidation. Nothing can shew more clearly than the various causes assigned for the production of goitre, the limited nature of man's mental energies, and his frequent willingness to rest content with a plausible probability, rather than attempt to push his way to the goal of truth through a rigid analysis, and a comprehensive induction of facts. As bronchocele occurs endemically for the most part, in localities of similar physical character, viz. in the valleys of mountainous regions, it is certain that these must in common contain its cause or causes. Various local peculiarities have at different times been assigned as such, but the exclusive morbid agency of which has been contradicted by more extensive observation. Thus the use of melted snow, or the waters of calcareous springs as a beverage, has by some been reputed the exciting cause of bronchocele; but the supposition of such an effect, resulting from the use of these liquids is met by such a weight of antagonist testimony that it can no longer be entertained. That bronchocele may result from certain malaria possessed by goitrous districts is certainly not improbable, though if such is the case, that must be of a kind very different from those other morbid agencies to which the name is generally applied.

Judging from the historic details connected with the bronchoceles of Alston-Moor, as given by the patients themselves, the inference is not unlikely to be correct that, these thyroid enlargements are not the peculiar product of any one agent exclusively, but that several may concur in their development. On questioning a considerable variety of affected persons as to the origin of their complaints, some confidently pronounce a cause, while others affirm that their swelled necks came gradually, and they know not how. A pretty large number of married women date the advent of their complaints from some difficult parturition, attributing their production to the straining of the parturient efforts, and state their reason for supposing such to be the case, is, that they first perceived the swelling either during a difficult labour, or immediately on its completion. Another class of persons, comprising both the married and unmarried, attribute the origin of their affections to their frequent employment in lifting heavy weights and bearing them upon the head. A few again blame some peculiar quality of the water which they use—and it may be here stated that a great deal of the water consumed in Alston-Moor issues from the limestone—though the disease is far from being confined to those who make use of such, nor do they shew any peculiar liability to its supervention. Others, as already mentioned, make no pretensions, even to a supposition, but freely confess their ignorance of the matter.

The two exciting causes most generally assigned, it will be perceived are one in character. They are evidently both such as to produce congestion in the thyroid gland in common with other parts of the head and neck; and being so, are not unworthy of having their claims considered as to their effect in producing the former's enlargement. They themselves certainly cannot be the cause of bronchocele, for in other districts, where the inhabitants are equally exposed to them, the disease is never seen. We are consequently driven back to search for some co-operating, and more active cause, in the physical character of the goitrous locality. It is every way probable that the agencies already mentioned, as well as others operating in producing inordinate congestion in the thyroid gland, will in all situations predispose to its enlargement. But as only some situations possess the especial exciting causes, it will be in these alone, where the disease becomes developed. Thus, what will assist in lighting up the disease in a goitrous district, will be altogether ineffectual for such a purpose in one of a different

character. In the same way as that state of the system which in Egypt might subject its possessor to an attack of plague, will, in this country, have no such effect, where the immediate pestiferous cause exists not.

What seems to be the principal element that gives effect to all other co-operating agencies in the production of bronchocele in Alston-Moor, is its meteorological character; in particular the frequent alternations of temperature so highly productive of vascular congestion. As has been already mentioned, these alternations are in this locality particularly sudden and extreme—and if, by any means, such as straining, or these alternations themselves, the tone of the capillaries of the thyroid gland, is in any degree diminished, its congestion is too likely to be perpetuated by those meteorological causes to which the people are almost daily exposed, according to that law of the animal economy by which vascular determinations are generally directed to a weakened part. Considering the peculiar structure of the thyroid gland, its loose yielding texture, and its inactive unsecreting character, it is probable that it is little amenable to inflammation properly so called, and that those causes, which are generally so active in exciting real inflammation and its train of consequences in other tissues, such as the tonsils, parotids, and mucous membranes, in it only effect that congestion too passive to be resolvable by purulent secretion, and there being no natural secretion to increase, it alone leads to that progressive hypertrophy which is the peculiar characteristic of bronchocele. It is well known that vascular congestion is the grand cause of hypertrophy, whether in the overlabouring heart, the blacksmith's biceps, or the urinary bladder straining to overcome obstruction—the exalted energy of their functions only acting by attracting to them more blood. It may be asked—why, then, if bronchocele is the product of the same meteorological causes which so generally excite tonsillitis or catarrh, does it not likewise exist in those places where these diseases are often seen? In answer, it may be stated that, in no situation in Britain where the writer has as yet seen, do these causes prevail so frequently, or with such intensity, as they do in Alston-Moor. Neither has he ever witnessed the aforesaid inflammations so excessively abundant as they are in the place in question. And from this it may be inferred, that bronchocele is endemic only in those localities where alternations of temperature—or it may be other causes—productive of congestion and inflammation, are in prevalence and greatness above the usual standard—and that it is only one feature of their produce—one among the numerous class of congestive and inflammatory ailments which will be found to obtain amongst a people exposed to these causes in such an exalted degree. Alternations of temperature are not the *only* cause of local determinations, though they seem to be the grand source of such in Alston-Moor: and being so, hold forth a strong claim to be the principal exciting cause of bronchocele. Whether this affection is associated with the same prevalence of congestive and inflammatory diseases in other goitrous districts, the writer is unable to say. Should it be so, the views now stated will be strengthened—but if it is otherwise the circumstance will certainly go far to invalidate them.

NOTES ON THE TREATMENT OF CHRONIC PLEURISY, WITH EFFUSION.

By the late *James Hope*, M.D.

THE following paper must possess a high interest for our readers, when we inform them that it was commenced by Dr. Hope during his last illness, and concluded on his death bed. Unable to complete it as he could have wished, he was compelled to dictate it in the shape of notes, which he finished only four days before his decease. To those who knew Dr. Hope well, this zeal for science and his fellow-creatures will occasion no surprise. It was consistent with the character of the man, who died as he had lived, an accomplished physician and a good man.

The symptoms of chronic pleurisy, with effusion more or less filling one side of the chest, are perfectly well described by systematic writers, as Dr. Law, (*Cyclop. Pract. Med.* p. 395 *a.*) yet there is no class of affections more habitually overlooked by the bulk of the profession than this—certainly one of the most destructive to life if neglected beyond a certain period. I am glad to notice that Dr. Stokes makes a similar remark. Some fault attaches indeed to the systematic writers alluded to, for their mistaking the state of anæmia, with its quick pulse, for irritative fever, by which they not only mislead themselves but also their readers, as to the nature of the patient's condition, and, consequently, as to the appropriate means of cure. It has resulted from this, that a far too unfavourable impression of the curability of chronic pleurisy with effusion, or empyæma, as it is called after a certain time, has become prevalent. Dr. Law thinks more favourably of the possibility of cure. He with justice, however, excepts tubercular cases, and those in which the patient is not assisted; yet I think that he is mistaken in supposing that a copious evacuation from some other organ may not occasionally prove critical and empty a chest. A case occurred to me in which absorption did not commence so soon as I expected: namely, within a week, when the patient was attacked with hypercatharsis to the amount of 60 watery evacuations in two days. The chest, meanwhile, which was dull within two inches of the left clavicle, and had the heart protruded to the right side of the sternum, had completely emptied itself, and the patient recovered.

Broussais met with only one favourable case out of eighteen. Laennec's view was equally gloomy, and Dr. Townsend's is no less so; Dr. Thomas Davies feels the same so strongly, that he hurries on the operation of paracentesis at a very early period of the disease—a circumstance which is the main cause of the unusual success of the operation in his hands. From this aggregate of unfavourable opinions it results that, at the present time, there is a prevalent doubt whether the fluid of empyæma is ever absorbed. This fluid, it may be remarked in passing, may be either sero-fibrinous and albuminous, or contain pus in any degree up to its pure condition. This seems to be now a settled question, and I think it ought to be so, as the fluid, in healthy subjects, kills not by its quality, but by suffocating.

I cannot feel surprized at this want of success in the cure of empyæma, when I notice the unsettled, vacillating, inadequate treatment recommended even by those writers who think most favourably of the possibility of a cure.

Dr. Law's treatment comes nearest to that which I have found effectual, but he is too timid in continuing the gentle use of mercury, from fear of its inducing irritative fever and hectic. This supposed irritative fever, however, is, in most cases, nothing more than excitement of anæmia, (a fact of which he does not seem to be at all aware, as even in the convalescent period, he does not even name iron as a remedy,) and the hectic is a necessary consequence when the fluid is pus,

and this is diffused through the whole circulation by the process of absorption. I have steadily continued the gentle external use of mercury through the most violent hectic, coming on twice a day in tremendous paroxysms; while I have counteracted this by the free use of mineral acids; and by a diet, not only of strong broth at luncheon, but of animal food at dinner—the patient's tongue being clean, and his appetite and digestion always good.

Dr. Townsend seems principally to follow Broussais (*phlegmasie chronique*), and Laennec, neither of whom make use of mercury, and the former would only venture on a blister as an experiment! He, likewise, falls into their great error of mistaking *anæmia* for fever, and, therefore starves the patient at a moment when there is a great demand for animal nutriment in any way in which it can be borne. The treatment of Dr. Thomas Davies is that of calomel and opium, and counter-irritants in the first stage, but he thinks these inefficient in the stage of chronic effusion. He, therefore, as already stated, hurries on the operation of *empyæma*. The writer on pleurisy in the Library of Practical Medicine (Vol. III. p. 124) seems to have but an indifferent opinion of the curability of chronic pleurisy with effusion. After the third week or so, he thinks mercury of little benefit, and that it is even injurious when the hectic stage comes on; but approves of counter-irritants, and follows Dr. Stokes in his approbation of the use of the hydriodate of potass, to act both as an alterative and a diuretic; also of the iodide of iron.

Dr. Stokes, whose writings on pleurisy I had not the pleasure of seeing till long after I commenced my own observations, I find to be far the most successful in his treatment of chronic pleurisy and *empyæma*. In an excellent chapter, containing a considerable portion of original matter—some, perhaps, a little fanciful—he mentions that he cured twenty cases running by the use of a pint daily of cold solution of Lugol's iodine, and from a quarter to half an ounce of the ointment rubbed into the side. He is, likewise, very favourable to the use of blisters.

I have myself been instrumental in curing five and thirty cases consecutively, during the space of four years, but principally two years and a half, while I was assistant-physician to St. George's Hospital, no cases having been withdrawn, or added from an anterior date, except three; the 1st was Mr. Garnett, whom I saw about 1833, who had also fatal ulceration of the bowels; the 2d, the Rev. Mr. ———, whom I saw about 1833; the 3d, an out-patient of St. George's, whom I found to have tubercular disorganization of the lungs, and whom I, therefore, transferred to Dr. M'Leod, as an in-patient of St. George's. Paracentesis was practised; the tubercles were found; and he died from inextension of the lung; which was bound down to the spine. The remainder of the cases all dated within three months, as well as I could make out by most carefully catechizing the patient respecting the first feeling of pleuritic pain or ailment of any kind. The pain was frequently forgotten, until the patient was perhaps asked whether he had not had a little lumbago, pain in the back, &c. Nor is this surprising; for copious effusion very soon relieves pleuritic pain. A very great proportion dated within two months, and from that time down to three weeks or a month. I seldom saw them earlier than a month, as they were either neglected and misunderstood cases amongst the out-patients of St. George's, or private patients whom I was called to see in consultation at a late period of the disease; the complaint of the latter having, with few exceptions, been also overlooked.

The following is a list of the previous duration of the disease in all my private cases, amounting to seventeen; but I lament to say that I cannot at present give the dates of those, eighteen in number, who were out-patients of St. George's, and the notes of whose cases I drafted out of 15,000 notes of cases, which I saw at St. George's, (for I took notes of almost all.) The notes of these eighteen cases having been separated from the others, I have unfortunately mislaid them.

Unless, therefore, I recover them, I must trust to the confidence of the public for the accuracy of the facts. They were all demonstrated, as they occurred, to the students of St. George's.

Coachman of Sir Clifford Constable's, ill a fortnight, but previous bronchitis.

Miss Caldow, ill from two to three weeks.

Robert Watts, ill eighteen days.

Mr. Smith, ill three weeks.

Mr. Tapsen, ill a month.

Patrick Millerick, ill a month.

Mr. Eade, ill five weeks.

Mr. Garnett, ill six weeks.

Henry Wade, ill two months.

Mr. Downing, ill two months.

Aldersgate Street Student, under Mr. —, for supposed phthisis—had supposed lumbago nine weeks before.

Miss Miller, disease of ten weeks standing for two months.

The Rev. Mr. Barter, two months and a half, but previous pneumonia.

Mr. Hamilton, ill three months.

Eliza Gray, ill three months.

Mr. Morgan, stitch in back three months before. Ill ever since.

The Rev. Mr. —? ill upwards of three months.

As I have not leisure to continue this paper at present, I subjoin the following memoranda of how I shall proceed if time permit.*

The private cases, being in great detail, and in general features greatly resembling each other, it would be useless to give the whole in full. Therefore pick out a few which give at length, as general types—for instance, Miss Miller, Mr. Morgan, and Sir Clifford Constable's coachman—the remainder insert in an abbreviated form, together with such of the out-patients of St. George's as I can recall to memory, though I have lost the notes of their cases.—Shew that I used mercury in all degrees of intensity, so as to ascertain what quantity was the most effectual, but, at the same time, least injurious.—Shew that I always used opium, in full proportion, with the mercury, and that I used the milder and the external forms when the others could not be borne—thus taking *especial* care to protect the mucous membranes.—Add that I found prompt and free salivation by calomel and opium, and the use of one or two drachms of ointment on each groin and axilla night and morning for forty-eight hours, (in conjunction with the other remedies presently to be specified), produce the most rapid and satisfactory effects of absorption, in cases where the dyspnoea and faintness seemed to me most urgent and dangerous. It was quite common, and, in fact, occurred in the majority of cases, that the fluid descended one-third, and still oftener one half, down the chest, within the space of forty-eight to sixty hours, carrying with it the extreme dyspnoea and faintness, to the great relief of the patient.

Say that blisters were used from the first, and that the following became my settled plan of managing them. One blister 6 inches long, and $3\frac{1}{2}$ broad, exclusive of margin, was placed longitudinally over, and a little to the outside of the angles of the ribs, leaving space for another of similar size between the first and the spine. Great care was taken not to remove the cuticle, (one means of which was to cover the surface of the blister with silver paper,) as this forms by far the quickest healing plaster; but after about forty-eight hours, during which the running was absorbed by dry napkins, carefully prevented from adhering, it became requisite to cover the whole with the mildest soap-plaster, spread on soft calico, to prevent the cuticle from being accidentally abraded. In this way all

* It will be observed that, from this point, the form of private notes is adopted.

irritation promptly subsided, that is, in the course of from two to three days, and the patient was ready for the second blister, which was placed between the first and the spine. It was similarly treated; and, at an equal interval, a third was placed in front of the original one; that is, rather forward in the axilla. When pain indicated the possibility of a pleuritic stitch in any part of the side, it is needless to say that the first blister was placed over that.—Say that diuretics are conjoined: viz. Squill; Sp. Æth. Nit.; juniper; iodide of potassium, and, when there is no irritation of the mucous membrane, the various other preparations of potass. Digitalis, by creating faintness, is apt to confuse the symptoms; I do not therefore, use it till later. Where all these remedies had failed for two or three days, and dyspnoea continued as urgent as ever, I have occasionally used a powerful hydragogue, as half a grain to a grain of elaterium, combined with calomel and capsicum to prevent nausea; or the Pulv. Jalap. Comp. 3j.; so as to produce ten or twelve copious watery evacuations per day, stimulants being at hand in case of any sinking tendency. The effect of this has on several occasions been perfectly satisfactory, absorption in the chest having now made rapid progress. I derived this idea from a case already alluded to, in which a patient had an accidental hypercatharsis to the amount of sixty stools in two days, which emptied the chest in the same space of time. The patient is better in bed, both because it favours gentle transpiration and obviates faintness.

Remind that, hitherto, I have been treating a case in which the dyspnoea seemed imminently dangerous, and the most vigorous use of remedies, consequently indispensable; but now explain that inconvenience sometimes resulted from hypersalivation; for, notwithstanding an immediate suspension of the mercury either on the first appearance of tenderness of the gums, or of amelioration of the symptoms—especially the dyspnoea and obvious commencement of absorption, untoward salivation would occasionally occur and greatly retard the convalescence.—Explain that, on several times observing this and having reason to believe that the patient could bear the dyspnoea with safety for some hours longer, provided he were prevented from rising, which creates faintness, (case of Mr. Smith, barrister,) I used more moderate quantities of mercury, being content to affect the gums within three or four days. In this way, the action of the remedy was easily controlled, either by omitting the mercury for two or three days if its action threatened to be considerable, or by merely diminishing it according to the evidence of the mouth and of the symptoms. I found, however, that it did not answer to suspend it altogether, but that a continuation of it daily in a mild form, as a blue-pill night and morning, or at night only, for the purpose of maintaining the first impression for a period of two or three weeks, or, in short, until all the disagreeable symptoms had disappeared, was attended with far better success.—Explain, further, that the great acceleration of pulse, which rises commonly to 120 or 130, and in young persons even to 150 or 160, and which is attended with what the patient calls “internal fever,” thirst, craving for cold drinks, and dryness and heat of skin, is not necessarily a result of fever, but it is necessarily a result of anæmia, occasioned by the deficiency of oxygenation from the total incapacity of one lung at least. Here was the error made by Broussais who supposed this to be fever and put his patient on the lowest diet. On the contrary, acting on the opposite principle, I always supply my patients with at least one or two pints of concentrated beef-tea, or plain ox-tail soup: and, if the state of the tongue and the alimentary canal fully authorizes it, I permit them tender old mutton or beef for dinner. On this treatment, the pulse and “internal fever” rapidly fall in proportion as the anæmia disappears.

Next proceed to those cases in which hectic is established, resulting, for the most part, I should imagine, from the fluids being of a puriform character—for, after a month or six weeks, and sometimes much earlier if the inflammation have been very intense, it assumes this character.—Allude to the opinion pretty pre-

valent that mercury is injurious in such cases, and say that I have not found it so, but that its use was still indispensable: for I have noticed that where it has been omitted, contrary to my wishes and instructions, a recurrence of the effusion has taken place, notwithstanding the use of mineral acids and the various other remedies usually considered available against hectic; whereas, on resuming mercury with opium and giving the mineral acids for hectic, I have been enabled to restore matters to their former condition, though not without an extra shake to the patient. One of the best instances of this was presented by Sir Clifford Constable's coachman.—Dwell on this case; say that, after acute pleurisy of three weeks I saw him, and the chest was emptied in a week, but the mercury ordered to be continued. This, on my taking my leave, was omitted; and, as he seemed weak, (*vis.* merely from anæmia,) he was ordered ammonia, brandy, and other stimulants. In ten days, when I was again called in, his chest had refilled, and he now had a most violent hectic paroxysm at eleven o'clock, A. M. and again at 11, P. M. Each of these thoroughly drenched him, and during the extreme heat the pulse would rise to 150, being also barely perceptible. In this, I saw nothing but a large quantity of pus in the circulation, which nature was endeavouring to throw off in her usual manner. I believed, in short, that the fluid in the chest was wholly purulent. I, therefore, continued the mercury and blisters in moderation and made free use of the mineral acids, which, fortunately, he bore perfectly well. During the brief intervals of the hectic paroxysms he exhibited that marked relief which we habitually see, and had always a keen appetite for his meals. He, accordingly, took as much mutton-chop, beef-steak, or roast or boiled mutton, as he was inclined to take. Under this treatment the chest was again emptied within the space of ten days; the hectic symptoms slowly gave way during a period of a month or six weeks, and I dismissed him convalescent to go to the country. I may add, however, that when the hectic was nearly gone, sulphate of iron was added to his sulphuric acid in order to co-operate with the animal food in removing all remains of anæmia.

Dwell likewise on the case of Mr. Morgan, *æt.* about 20, who was not only highly hectic, but had also slight gastro-enteritis. I continued the gentle external use of mercury, allayed the irritation of the mucous membrane by mild antiphlogistic means, &c., but allowed him plain veal and chicken-broth, then beef-tea and mutton-broth, in such quantities as I found he could bear. The gastro-enteritis having been thus pretty well subdued, he became tolerant of the mineral acids and sulphate of iron, well guarded with laudanum. This youth rendered the progress of absorption more rapid than in the preceding case, for the fluid all disappeared within ten days, with entire relief to his dyspnoea; and so great a restoration resulted from the new supply of oxygen and removal of anæmia, that a week afterwards he came in a cab from the City to the West-end to call upon me.

Auscultators should be careful not to throw away their chances by neglecting to use the stethoscope. In one instance, an accomplished physician, having examined the top of the lung and found it dull, with the other usual signs of induration, without following up his examination down the whole side, took the case for phthisis, and ordered the patient to the southern coast. A common friend having mimicked to me the mode of breathing of the patient, I declared at once, (*for his imitations were most graphic,*) that such was not the dyspnoea of phthisis; and as I knew him not to be a phlegmatic subject, and to have been in robust health two months before, I entreated of our friend to go down to the patient in the country the same afternoon, and not to let him stir (*for he was to start two days after*) without a consultation of physicians. I declined going myself, as having suggested the measure. Answer was returned that if I would not go, he would see no one else, as he had originally intended to have consulted me. I saw him and found—what I was before sure of: namely, that the whole side was full of fluid, indicated by the usual symptoms, including anæmia and

the physical signs. I flattered him that we should empty the chest within a week or ten days, and that he would be convalescent, *Deo volente*, in a month. So it happened, though mercury could only be borne externally, and that with great reluctance on the part of the patient. His convalescence was somewhat protracted in consequence of the irritable state of the mucous membranes, rendering them incapable of bearing the animal diet, and ferruginous preparations suitable for the removal of the anæmia. He had flying pains principally below the region of the heart, but these ceased under the use of plasters, especially belladonna; and he has enjoyed perfect health for the past year.

In the great majority of cases an attrition murmur, (always most perceptible along the line of the margin of the lungs from the heart, curling backwards to the bottom of the lower lobe; in other words, below the axilla,) was found to appear as the fluid disappeared by absorption. I have noticed that the longer this attrition murmur lasts, the better; as the adhesions are more apt to be of a loose and elongated character, which I infer from the patient's recovering complete resonance on percussion, and complete restoration of respiratory murmur sooner than in other cases where the attrition murmur lasts but a few days, in consequence, probably, of the adhesions becoming universal and close. Whenever the latter is the case, the patient may lay his account to being more or less delicate for a year and a half or so, because the lung requires fully this time slowly to stretch the adhesions, to re-acquire her natural respiratory murmur; or, if this should never occur, for the patient to gain a compensation by hypertrophy of the opposite lung, which, meanwhile, has constantly been doing vicarious duty; namely, breathing in an exaggerated or puerile manner. These exquisite arrangements of Providence cannot be sufficiently admired. The more we look into them, the more complete we find them.

The lung sometimes remains permanently condensed from the thickness and utter inexpandibility of the side: and dilatation of the bronchi may result from this cause, of which I have met with and detected four or more instances. Condensation of this kind is less frequently attended with falling in of the side than in cases of pleurisy; for the opposite lung slowly becomes hypertrophous and fills up the vacant space, advancing, however, into the opposite side of the chest, and carrying the heart with it in either direction. Thus, in Peter Parker, an out-patient of St. George's, the heart is protruded almost into the right axilla, and the aorta pulsates an inch to the right of the sternum. Lung condensed by adhesion, is rarely healthy. There is almost invariably a slow, wearing, chronic bronchitis, which harasses and reduces the patient, and generally curtails his existence. Parker had had his cough for ten years, and he was an emaciated and decrepid subject.

Here introduce a number of detached observations, more or less original, on various subjects. Thus, for eight or ten years, I have been in the habit of asking the question of all respectable patients of robust constitutions, who had been attacked with pleurisy, peripneumony, acute rheumatism, whether they were in the habit of wearing flannel, or not; to which they generally answered in the negative—the common reason assigned being, that they were so much exposed, that they could not venture to pamper themselves. I recently put the same question to a London physician, and he gave the same answer with a smile, and “my dear friend, it is impossible, &c.” He was attacked with rigors the same night, and had a severe rheumatic fever. I do not quote the poorer classes, for they, almost universally, are deterred from wearing flannel by the expense, and it is notorious that they are subject to acute inflammations of all kinds, in a much greater proportion than the higher classes. Flannel is also highly beneficial to chronic affections of the mucous membrane of the lungs.

Pleurisy is, after rheumatic fever, one of the most frequent causes of pericarditis—not endocarditis, at first—the inflammation being propagated to the peri-

cardium by contiguity of tissue: if endocarditis supervene, it is by propagation from the peri- to the endo-cardium.

Diaphragmatic pleurisy may occasion agonizing pain by interfering with the action of so great a muscle as the diaphragm. It is in such cases that we occasionally see the patient put on what is called the sardonic grin, a species of sympathetic spasm dependent on the excito-motory system and nerves.

In some convenient part of the paper, give a brief and compact, but very clear synopsis of the signs of a chest full of fluid. For I repeat that, well as these are known to systematic writers, they are singularly forgotten and overlooked by practitioners. They ought, therefore, to be pushed prominently forward on every occasion. Refer, likewise, to a synopsis of the signs of anæmia in the essay on that subject; by which the practitioner will readily distinguish this condition from that of fever, for which it has been mistaken by Broussais and others.

Wind up by a general statement, that, if Dr. Stokes has cured twenty cases running by Mons. Lugol's solution and ointment of iodine, together with blisters and other means; and I have cured thirty-three consecutive cases by other means; fifty-three cases cured successively, without selection, afford a strong presumption that all really *curable* cases are curable without paracentesis. It remains to be proved by experience whether iodine or mercury be the less injurious to the constitution. I have myself the most favourable opinion of the harmlessness of the iodide of potassium when protected by starch—that is, a little bread with each dose; for I made the experiment of giving eight-grain doses against three-grain doses, in two hundred cases, for the purpose of ascertaining which dose was the most efficacious. The larger, both being given thrice a day, succeeded incomparably the better, and I now rarely give the smaller.

I have met with seven or eight cases of circumscribed pleurisy, and whenever a chronic pleurisy becomes very protracted, I am not sorry to see a purulo-sanguineous discharge take place periodically, as it generally does, into the bronchial tubes; for, in this case, a slow process of healing generally occurs, and the patient, in a fair proportion of cases, recovers. I have recently discharged one, Henry Wade, who appeared to me to have had a chronic pleurisy engrafted on a previous circumscribed or sacculated one. The history of the chronic one is developed in my journal in the utmost detail; but the patient also informed me that some months before he had been under the care of a physician in Norfolk, who had treated him for six months previously for a discharge of half a pint of pus mixed with blood, expectorated once a day from the bronchial passages. After this time he sent him to London to consult me, and I found him with a very circumscribed empyæma that he might have had, obscured by general empyæma. This having been removed, the original circumscribed empyæma pointed at the chest, and discharged by two or three apertures. When the discharge was free by the apertures it was correspondingly diminished by the bronchial tubes. Both slowly decreased. The circumscribed empyæma seemed to descend very low in the splenic region, and after nine months of hospital attendance as an in-patient he was dismissed without discharge, with slight cough and in general good health, his weight being at least 12 stone, though a moderate-sized man.

I discharged a patient from the Mary-le-bone Infirmary, cured six times of circumscribed empyæma above the left mamma, and opening into the bronchi. At the end of six months he was completely well.

In another, in the Mary-le-bone Infirmary, the whole length of a probe could be passed directly into the chest. He recovered, but with much collapse of one side.

A third in the Mary-le-bone Infirmary, a boy of 18, had effusion for six months. My colleagues, in consultation, had given their opinion that he was tubercular. The operation of paracentesis, therefore, was negatived. The opposite lung was soon after attacked with peripneumony and he died, when the

exemption from tubercles was proved. I did not then understand an efficient treatment for fluid in the chest; and was therefore an advocate for the early operation on the principle of the late Dr. Thomas Davies of Broad Street. I had much regret, therefore, respecting this case, that the operation had not been performed. One feature was remarkable. Andral, Broussais, and others, recommend that patients in chronic pleuritis should be kept on light diet. This youth ate twelve ounces of dressed meat at dinner; eight ounces at breakfast with two eggs; tea and milk ad libitum; sixteen ounces of bread daily.

Numerous similar cases shew that nature's mode of performing the operation is incomparably more safe than paracentesis.

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JULY 1, to OCTOBER 1, 1841.

ON THE DISEASES AND DERANGEMENTS OF THE NERVOUS SYSTEM, IN THEIR PRIMARY FORMS AND IN THEIR MODIFICATIONS BY AGE, SEX, CONSTITUTION, HEREDITARY PREDISPOSITION, EXCESSSES, GENERAL DISORDER, AND ORGANIC DISEASE. By *Marshall Hall*, M.D. F.R.S. L. & E. &c. &c. &c. Octavo, pp. 380. London, Baillière. 1841.

WE are not sure that Dr. Marshall Hall is well advised in dwelling so much on the injuries he has received. He places himself in the same category with Harvey and with Galileo, and exposes himself to the sneers of those who are inclined (and they are too many) to derogate from his real merits, and disparage his labours and their fruits. The proverbial irritability of authors is displayed by him too prominently. The public either laughs at incessant complaints, or gets tired of them. Controversy and controversialist are both voted a bore, and there is a greater danger impending than opposition—neglect.

Dr. Hall too, overrates the wrongs he has encountered. New views are at first ill understood, and require opposition for their perfect development. Men's minds are too entrenched in old opinions to be taken by storm even by truth. The process of conviction is a slow and a sure one. All this a philosopher should reckon on, and not lose his temper at every doubt and every objection. We conceive that if Dr. Hall had engaged less in altercation, and prosecuted his researches with more equanimity, he would have escaped many annoyances, and stood in just as advanced a position as he occupies at present. He may think us impertinent for offering advice, and yet we *would advise* him to drop the tone of disputation altogether, avoid noticing as well as indulging in personal attacks, and content himself with working out his own discoveries and views.

We do not propose recording those discoveries, nor entering at length upon those views at this time. We have devoted so many pages to them lately, that that would be supererogation. The application, however, of those views to pathology, an application made freely in the work before us, may present some points of novelty and of instruction, and to that

application we shall confine ourselves. An article of this description must, of necessity, be desultory.

Dr. Hall has satisfied himself of the seat of the soul and of its properties, and hits materialism a mortal blow. "The principle of action," says he, "in the cerebral system, is the *ψυχή*, or the immortal *soul*. Upon the cerebrum the soul sits enthroned, receiving the ambassadors, as it were, *from without*, along the *sentient nerves*; deliberating and willing; and sending forth its emissaries and plenipotentiaries, which convey its sovereign mandates, along the *voluntary nerves*, to muscles subdued to volition."

"The acts of the soul are, as I have stated, frequently spontaneous. It is this very character of spontaneous action, indeed, which proves the soul to be free in its agency, independent of organisation (although for a time connected with it, and influenced and manifested by it), and therefore indestructible and immortal. All the acts of mere organic life are the result, the effect, of *physical* stimulus; let this stimulus cease, and its effect ceases—it is death. The functions, the operations of the soul alone are free, spontaneous, unexcited. This is the true argument against *materialism*; but I reserve the task of unfolding it to another and more appropriate opportunity." 4.

We could have wished that Dr. Hall had been more communicative, for his promise to prove all by-and-by is tantalising. As the matter stands, it looks as if the act of *volition* constituted the evidence, and was the office of the *soul*. But if this be so, all animals possessed of *volition* have souls. It would therefore be well to understand exactly what Dr. Hall intends by a soul. We confess that we are of those who believe in the existence of an immortal soul in *man*. But we are more inclined to look to inspired Writ than to physiology for the assurance of it. Physiology, indeed, leaves such high questions in the dark. The sciences do not rise to these arcana of Nature, and what we know we must submissively receive from the lips of the Deity himself.

But to proceed. The following passage is a fair sample of Dr. Hall's style. Its tone will, perhaps, afford a key to much of the acrimonious opposition he has met with.

"It is very different in regard to the true spinal system; in this, the actions are always *excited*. The principle of motion is the *vis nervosa* of Haller, acting in modes and directions unknown to physiologists before the publication of my inquiries, the discovery of which I regard as having laid the foundation of all accurate knowledge of this system, with its extensive applications to physiology and pathology. Indeed, I may assert that the *vis nervosa*, in its *reflected* and *direct* operations, is to the nervous, what the blood, in its *circulation*, is to the vascular system; the former is the *dynamic*, the latter is the *material*, in all the corporeal functions in the animal œconomy, as distinguished from the *psychical*. Our knowledge of the distinct phenomena of the subdivisions of the nervous system is, further, an important guide in the diagnosis and prognosis of the *diseases* of this system; it is, to the diseases of the brain, the true spinal marrow, the nerves, and the ganglionic system, what auscultation is to those of the viscera within the thorax." 4.

This, at all events, is not calculated to disarm hostility. Dr. Hall presents us with a tabular view of his division of the nervous system, which may be usefully conned. Here it is.

- I. *The entire Nervous System is divisible into—*
 - I. *The Cerebral.*
 - II. *The True-Spinal.*
 - III. *The Ganglionic.*
- II. *The Cerebral System is*
 - I. *The Seat of the $\psi\chi\chi\eta$, or soul, and*
 - II. *The System of*
 1. *Sensation and of the Senses.*
 2. *Volition and of Spontaneous Motion.*
 3. *Sleep and Fatigue.*
- III. *The True Spinal System.*
 - I. *The Principle of Action is the Vis Nervosa.*
 - II. *Its Modes of Action are excited and reflex or direct.*
 - III. *The Reflex Functions are those of*
 1. *Ingestion and Retention.*
 2. *Egestion and Exclusion.*
 - IV. *The Direct Functions are*
 1. *The Tone*
 2. *The Irritability* } *of the Muscular Fibre.*
- IV. *The Ganglionic System.*
 - I. *The Principle of Action is the Vis Nervosa.*
 - II. *The Mode of Action excited, direct or immediate.*
 - III. *The Functions those of*
 1. *The Internal Muscular Organs.*
 1. *The Heart and Arteries.*
 2. *The Stomach and Intestines.*
 2. *Nutrition.*
 3. *Secretion, &c.*
- V. *The System of the Emotions ; these are*
 - I. *Psychical Affections, acting through*
 - II. *The True Spinal, and*
 - III. *The Ganglionic Systems.*

Mixed, in the Oesophagus ; the Rectum ? Mixed Functions.

CHAPTER I. is devoted to the *Anatomy, Physiology, and Pathology of the Cerebral System.*

The Anatomy and Physiology we shall pass over, but pause at the Pathology. Let Dr. Hall apply his views to this.

The cerebral system being the system of the sensations, of judgment, of volition, it is to it that we must refer all morbid conditions of these mental acts or functions. Every derangement of the senses, every form of delirium or of coma, or of perverted imagination or judgment, every act of violence, must be referred to the condition, primary or secondary, of the cerebrum, or cerebellum. The experiments of Majendie and Flourens have shewn that it is impossible, by lacerations or other modes of injury of the *cerebrum* or *cerebellum*, to induce either pain, or contraction in

the muscular system. These organs are not endued with *sensibility*, or with the *vis nervosa* of Haller.

When the cerebrum is irritated, delirium ensues. When compressed, coma is induced. When lacerated, we have paralysis of *voluntary* motion. If other phenomena are seen in diseases of the encephalon, they arise from the extension of the influence of these to the true spinal and ganglionic systems, through *irritation* or *pressure*, *counter-irritation* or *counter-pressure*.

The olfactory, the optic, the acoustic nerves are, equally with the cerebrum and cerebellum, incapable of *pain*, or of *exciting movements* in the muscular system, when punctured or lacerated. But when the optic nerve is inflamed or irritated, there is impatience of light; when the membranes of the encephalon are inflamed and the cerebrum irritated, there is delirium. When these several textures are compressed, there is amaurosis, and coma respectively.

It must not be lost sight of, that, not only undue arterial action, and venous congestion, induce morbid states of the cerebral functions, but the state of exhaustion from the loss of blood, the anæmious condition in chlorosis, &c. induce *similar* effects, and present to the physician anxious cases, which frequently try his skill in diagnosis. Too great action, then, of the minute arteries, congestion in the veins, an anæmious state of the vascular system of the encephalon, alike induce morbidly exalted and impaired conditions of the mental and cerebral functions: spectra, delirium, insomnia; amaurosis, stupor, coma; violent voluntary actions, or paralysis of the voluntary motions: these are the symptoms which arise out of these morbid conditions of the cerebral system and functions; and these only. Spasmodic actions depend upon the fact of another system being implicated.

Speaking of paralysis of the face, Dr. Hall makes this remark:—In paralysis of the face, from disease of the opposite hemisphere, the eye-lid can be closed, as represented in *Plate vii. fig. 1*; in paralysis of the facial nerve, the orbicularis is paralysed, as we observe in *Plate vii. fig. 2*. What is the rationale of this difference? The seventh, like the fifth, is a compound nerve. As the latter embraces excitator and ganglionic filaments, which are not involved in the attack of hemiplegia, so the former comprises a branch belonging to the excito-motory system, which is not affected in disease of the cerebrum.

Both the fifth and the seventh pairs of nerves are, then, more complex than they are represented to be by Sir Charles Bell. The former includes excitator and nutrient nerves, with the nerve of sensation; and it has appropriate origins, distributions, and offices: of its offices, sensation alone is impaired by cerebral disease; but *all* are annihilated by the pressure of a tumour within the cranium. The seventh comprises pure cerebral and true spinal nerves; the cerebral only is affected in hemiplegia, and the orbicularis retains its power; all are paralysed by the pressure of a tumor below the ear, and we have paralysis of the sphincter of the eye-lid. This remark leads me so observe that *ptosis* is a cerebral paralysis, whilst *lagophthalmia* is one of the true spinal system: *strabismus* may be spasmodic or paralytic and belong to either.

Dr. Hall notices, of course, the fact, that disease confined to one hemis-

phere of the cerebrum, or of the cerebellum, and to one side of the mesial plane in the tuber annulare, constantly affects the *opposite* side,—whilst disease, confined to one of the lateral columns of the medulla oblongata and medulla spinalis, affects the *corresponding* side, of the muscular system. The encephalon has a *crossed effect*; the medulla spinalis a *direct effect*.

It has been further ascertained that, in *experiments*, lesions of the encephalon induce *paralysis only*, whilst lesions of the medulla oblongata and spinalis induce *convulsion or paralysis*, according to its severity.

Some other more apocryphal facts in relation to lesions of certain parts of the brain we pass over. But it may be remarked that in those cases in which hæmorrhagy occupies an extensive space, affecting both hemispheres of the cerebrum,—as in meningeal hæmorrhagy at the summit, or at the base of the brain, in extensive hæmorrhagy within the brain, extending from one hemisphere to the other, or into both ventricles,—*general paralysis* is observed; the same event takes place in the cases in which a clot is formed in the mesial line in the tuber annulare,—the nodus encephali, as it has been termed.

The second chapter is devoted to the *True Spinal or Excito-Motory System*.

Its principle of action, the *vis nervosa* of Haller, and its anatomy, are first dwelt on. A Table of the Anatomy will place it conveniently before the eye.

TABLE OF THE ANATOMY OF THE TRUE SPINAL SYSTEM.

I. The Incident Motor Branches.

1. The Trifacial, arising from—
 1. The Eye-lashes.
 2. The Ala Nasi.
 3. The Nostril.
 4. The Fauces.
 5. The Face.
2. The Pneumogastric, from
 1. The Pharynx.
 2. The Larynx.
 3. The Bronchia.
 4. The Cardia, Kidney, and Liver.
3. The Glosso Pharyngeal?
4. The Posterior Spinal, arising from—
 1. The General Surface.
 2. The Glans Penis vel Clitoridis.
 3. The Anus.
 4. The Cervix Vesicæ.
 5. The Cervix Uteri.

II. The Reflex, Motor Branches.

1. The Trochlearis } *Oculi.*
2. The Abducens } *Oculi.*
3. The Minor Portion of the Fifth.
4. The Facial, distributed to
 1. The Orbicularis.
 2. The Levator Alæ Nasi.
5. The Pneumogastric or its Accessory.
 1. The Pharyngeal.
 2. The Oesophageal and Cardiac.
 3. The Laryngeal.
 4. The Bronchial, &c.
6. The Myo-glossal.
7. The Spinal Accessory.
8. The Spinal, distributed to the
 1. Diaphragm, and to
 2. The Intercostal and } *Muscles.*
 3. The Abdominal
9. The Sacral, distributed to
 1. The Sphincters.
 2. The Ejaculators, the Ejaculators, the Fallopian Tubes, the Uterus, &c.

the Centre of the System.

And passing to the physiology, Dr. Hall favours us with a similar Table of it. They should be placed side by side.

TABLE OF THE PHYSIOLOGY OF THE TRUE SPINAL SYSTEM.

I. *The Excited Action*—

1. *Of the Eyes, the Eye-lids; (and of the Iris ?)*
2. *Of the Orifices.* { 1. *The Larynx.*
2. *The Pharynx.*
3. *Of the Ingestion.*
 1. *Of the Food.*
 1. *In Suction;*
 2. *In Deglutition.*
 2. *Of the Air, or Respiration.*
 3. *Of the Semen, or Conception.*
4. *Of Exclusion.*
5. *Of the Expulsors, or of Egestion.*
 1. *Of the Faeces;*
 2. *Of the Urine;*
 3. *Of the Perspiration;*
 4. *Of the Semen;*
 5. *Of the Fetus, or Parturition.*
6. *Of the Sphincters.*
 1. *The Cardia.*
 2. *The Valvula Coli ?*
 3. *The Sphincter Ani.*
 4. *The Sphincter Vesicæ.*

II. *The Direct Action or Influence*—

- I. *In the Tone,*
- II. *In the Irritability,* } *of the Muscular System.*

Dr. Hall observes that the true spinal marrow may be correctly viewed as a distinct *organ*, totally different in its properties and functions from the cerebrum, and as the centre of a distinct system of nerves, different from the sentient and voluntary, and possessed of a peculiar and special motor power, which acts in incident as well as reflex directions, for special purposes—judging entirely from *experiment*. It may be received as a principle, that every part of the nervous system, which is endowed with the excito-motory power, belongs to this system, whether this power be exerted in the direction of the nerves *from* or *towards* the nervous centres.

He observes, too, that each nerve of the excito-motory system, with the exception, perhaps, of the pneumogastric, is a compound nerve, having a cerebral as well as a true spinal origin. Whether these may be traced by the scalpel is another matter.

On stimulating given incident nerves, the most usual effect produced is a motion of the limbs. But in other instances we have acts of inspiration, of deglutition, of expulsion,—of closure in the eye-lids, larynx, pharynx, and the sphincters. These excitor nerves may be viewed as *guards* of the orifices and exits of the animal frame, as seen in the subsequent *Table*:

TABLE OF THE GUARDS OF THE ORIFICES.

- | | |
|---|---|
| <p>I. <i>The Trifacial guards—</i></p> <ol style="list-style-type: none"> 1. <i>The Eye.</i> 2. <i>The Nostril—the Ear
in the Cetacea,</i> 3. <i>The Fauces.</i> | <p>II. <i>The Pneumogastric guards—</i></p> <ol style="list-style-type: none"> 1. <i>The Larynx, the Bronchia.</i> 2. <i>The Pharynx, the Cardia.</i> 3. <i>The Ureter, the Gall-duct.</i> |
| <p>III. <i>The Spinal Nerves guard—</i></p> <ol style="list-style-type: none"> 1. <i>The Rectum.</i> 2. <i>The Bladder.</i> 3. <i>The Vesiculæ Seminales.</i> 4. <i>The Uterus.</i> | |

With each part of this series of excitor nerves are connected, through the spinal marrow, a corresponding set of motor nerves.

We are tempted to notice Dr. Hall's explanation of the physiological act of respiration. It is the opinion of several physiologists that respiration depends on the medulla oblongata as its primum mobile. It is founded upon the facts that the cerebrum may be removed from above downwards, and the spinal marrow from below upwards, without suspending the acts of inspiration, if the medulla oblongata at the point of origin of the pneumogastric be preserved entire. But if the nerves of the eighth pair be cut, respiration, though difficult, continues. "From these several experiments," says Dr. Hall, "we should be apt to conclude, that neither the cerebrum nor the pneumogastric nerves are necessary for the acts of inspiration, since these acts are renewed when either is removed. The truth, however, is, that although the acts of inspiration continue without *either*, they will not continue without *both*. *Each* may be removed *singly*; but if *both* be removed, the inspirations cease, as in the experiment of dividing the medulla oblongata at the origin of the pneumogastric nerves, an experiment hitherto unexplained. In fact, inspiration may be a voluntary act, induced by the agency of the cerebrum, the pneumogastric nerves being divided; or it may be an excited act, excited through the agency of the pneumogastric nerves, the cerebrum being removed. If, in this latter circumstance, the pneumogastric nerves be divided, the acts of inspiration cease! In this last fact we have, then, the proof that the medulla oblongata is not the primum mobile of respiration; but that the pneumogastric nerve is that primum mobile, as an excitor of respiration, essential and necessary when the agency of volition, with its organ, the cerebrum, is removed,—an important conclusion, by which many difficulties, and an interesting question, are at once solved."

Dr. Hall considers the carbonic acid evolved in the lungs, as the stimulus or exciting cause of inspiration. And he ingeniously explains in this manner the accordance between respiration and circulation. This proportion, he remarks, obtains from the highest degree of activity in an animal, even to the most complete quiescence in hybernation. The evolution of carbonic acid is greater in proportion to the rapidity of the circulation: this carbonic acid is itself the exciting cause of inspiration; this act will, therefore, be repeated more or less frequently as the circulation, and with it the evolution of carbonic acid, is more or less rapid.

But the pneumo-gastric is not the sole excitor of inspiration. There are several, arranged thus:—

1. *The Trifacial.*
2. *The Pneumogastric.*
3. *The Spinal.*

But if these constitute the *excitor* nerves of inspiration, the medulla oblongata must be viewed as the organ which *combines* the various muscles into a system, and the various nerves comprised in the respiratory system of Sir Charles Bell are the true *motor* nerves of respiration.

Speaking of the *excited* act of deglutition, Dr. Hall alludes to a well known statement of Mr. Mayo's, viz.—If the action of deglutition be voluntarily performed several times in succession, and nothing but saliva swallowed, the parts become *fatigued*, and the operation cannot be immediately repeated. The real explanation of this last singular and interesting fact is this: an excited act requires a stimulus or excitor; the saliva is that stimulus in the first and second acts of deglutition; but in a third, attempted promptly after the second, this stimulus is wanting; the act consequently fails for want of its excitor.

Action of the Cardia.—This is paralysed on dividing the pneumo-gastric nerves. Dr. Hall states, that there seems to be a property of actual, not to say *active*, dilatation, in the cardia, as well as in some other sphincters. If we irritate the fauces, and induce the first disposition to vomit, we may be perfectly conscious of an act of opening of the cardia; a portion of gas escapes and ascends the œsophagus. A *similar* event doubtless takes place during deglutition. In regard to the sphincters, it is plain that they have the *power* of dilatation: gas may escape from the intestine noiselessly, and the urine from the bladder without effort; events very different from that generally supposed, of the sphincters being overcome by an antagonist force. There is a fact of *practical* interest connected with this view; sometimes hæmorrhoids are protruded so that no force of pressure can replace them; but, by inducing the patient to make the effort usual in voiding the intestine, the sphincter relaxes positively, and the hæmorrhoidal tumor is returned with facility by gentle pressure.

An interesting Section is made up of *Practical Applications of the Physiological Principles laid down.*

1. *Treatment of Choking.*—The danger from a morsel of food remaining in the pharynx arises from a reflex action closing the glottis. Dr. H. proposes this immediate remedy.

Pressure being made on the abdomen, to prevent the descent of the diaphragm, a forcible blow should be made by the flat hand on the thorax. The effect of this is to induce an effort *similar* to that of expiration; the larynx being closed, œsophageal vomiting takes place, and the morsel is dislodged.

If this plan fail, not an instant being lost, the pressure should be kept up on the abdomen, the finger should be introduced into the throat, and the same smart and forcible blow made on the thorax as before. By the irritation of the fauces, the cardia is opened, and, by the blow on the thorax, (firm pressure being made on the abdomen), an effort similar to

that of expiration, with a closed larynx, is made, and a direct vomiting occurs, and the morsel of food is carried away.

2. *Mode of passing the Stomach Tube.*—It is often required to pass the *stomach-tube* in cases of *poisoning*. Now, in doing this, the great object is to avoid the *excitors of vomiting*. This is done by passing the tube boldly through the isthmus faucium,—avoiding touching the base of the tongue, the posterior gums, or the veil of the palate,—to the posterior part of the pharynx. In this last part there are no nerves but those of the excitors and motors of deglutition; so that there is no difficulty in passing the stomach-tube, with these precautions, freely on into the œsophagus, and finally into the stomach itself. We cannot say that our experience has quite borne this out. Irresistible efforts to vomit are not unfrequently excited when the tube has passed some way down the œsophagus.

3. *The Use of the Pharyngeal Tube.*—It has been usual, with the object of administering food, in cases of cut-throat, of mania, &c. also to introduce the tube through the whole course of the œsophagus into the stomach itself. It occurred to Dr. Hall that it was unnecessary to adopt this measure, and that to introduce a tube, which may be called the *pharyngeal-tube*, within the influence of the excitor nerves of deglutition, and within the grasp of the constrictors of the pharynx, would be sufficient. The interesting experiment was performed by Mr. Arthur Stillwell, of Moorcroft House, upon an insane patient, who had refused food, and had been fed by means of the stomach-tube, and whose case indeed suggested it. It succeeded.

In the case of poisoning, the *stomach-tube* itself must be used. Yet, frequently, patients make ineffectual efforts to vomit under the conjoint influence of an emetic and of a narcotic poison; if, in such a case, the stomach-tube be introduced, vomiting is frequently perfectly accomplished through the tube itself, and along its sides, from the influence of the tube on the excitors of vomiting, and, through them, on the cardia,—and the further operation of the syringe may be unnecessary. But cases of severe poisoning will, however, require the syringe both for the injection and the extraction of fluids into the stomach.

It is generally necessary in the insane to open the mouth, and to retain it open by force. To avoid this necessity, Dr. Hall proposes to introduce a smaller tube along *the floor of the nostril*; in doing this, we pass it *below* the nasal branches of the trifacial, which are the excitors of sneezing, and *above* the palatine branches of this nerve, which are the excitors of vomiting. This suggestion was also adopted by Mr. Arthur Stillwell. A long, narrow, flexible tube, of the diameter of a large male catheter, was employed. It was passed just seven inches through the nostril, being incurved towards the pharynx. The patient appeared entirely unaffected by the procedure. The fluid food was then propelled along the tube. Deglutition took place regularly, marked by the usual movements of the larynx: in vain did the patient try to expel it; saliva only appeared at the lips; the food had passed beyond the domain of *volition*; it had

been seized by the actions of the excito-motory power. It passed freely onwards into the stomach!

4. *Irritation of the Fauces, to induce vomiting.*—From an ignorance, observes our author, of the physiology of these parts, a singular event has occurred. A patient wishing to excite vomiting, has introduced a feather,—too far,—*beyond* the excitors of vomiting, which he ought to have stimulated to their proper action, *to* the excitors of deglutition, under the influence of which the feather has actually been swallowed.

Dr. Hall relates some cases in point. We are tempted to mention the manner in which, in two instances, a long feather has been extricated from the *oesophagus*. In a case which occurred to Dr. Cleghorne, the third or fourth feather of a goose-wing, whole and entire, had been swallowed. The Doctor, and Mr. Morris, a surgeon, furnished themselves "with a long flexible whalebone, to each extremity of which a piece of sponge was fixed, with two strings reaching betwixt each. The strings were added to the instrument by Mr. Tuckey, some years ago, when he had occasion to use it, that he might have it in his power to extract the sponge, in case it should break loose from the whalebone in the *oesophagus*; and we readily perceived they might be of singular service in the present case, by laying hold of the web, if the whalebone was turned round its *axis*."

"We first tried, by depressing the root of the tongue and inspecting the *fauces*, if we could see any part of the feather, or reach it with our fingers; but, this being to no purpose, Mr. Morris introduced the smallest end of the abovementioned instrument into the left side of the *fauces*, to avoid pushing down the feather, which we had reason to think was lodged in the right side of the *oesophagus*; and, having thrust it far down towards the stomach, he began to make the extraction by slow degrees, inclining the end of the instrument he held towards the left side, and twisting it round repeatedly, that the strings might have a better chance to take hold of the feather.

This first attempt proved unsuccessful, and so did another which I made after the same manner; but the third time, Mr. Morris, having introduced the largest end of the instrument as far down as he could into the *oesophagus*, was lucky enough to bring up the feather along with it into the *fauces*, from whence he extracted it with his fingers, about two hours after it had been swallowed." 83.

5. *Intrac tion of the Rectum Bougie.*—These are by no means solitary cases of this kind. The other extremity of the alimentary tube presents us with a phenomenon of a similar character. The action of this part of the animal frame is highly peculiar: after the expulsion of its contents, the last intestine has, through the medium of the internal sphincter and the levator ani, an inverted action; and an instrument, introduced for the purpose of relieving the intestine, has been suddenly grasped, snatched from the fingers of the operator, and drawn up into the rectum and colon.

6. *Severe Pain in the Rectum and its Remedy.*—"There is a peculiar and severe pain of the rectum, which comes on in paroxysms, generally during the first sleep, and of which I have not seen any description in medical writings. It appears to me to depend on some hæmorrhoidal tumor, compressed by the action of the sphincter ani. The infallible remedy is—to

rise out of bed, and to make a forcible and sustained effort to relieve the bowels. The changed position of the hæmorrhoid, under these circumstances of positively relaxed sphincter, and effort of protrusion, leads to perfect relief of the paroxysm of pain."

7. *Reduction of a Hæmorrhoidal Tumour.*—Dr. Hall observes that much difficulty has sometimes been experienced, not only by the patient, but by the surgeon, in returning protruding hæmorrhoids. Pressure alone is applied in vain. But if the patient be directed to make a forcible expulsive effort, and pressure be simultaneously made, the tumor frequently recedes immediately. The sphincter is positively relaxed; the ligature which it formed round the tumor is removed, and the reduction is easy. Dr. Hall asks: Would a similar measure aid the accoucheur in returning the prolapsed uterus? Would a similar effort ever assist in the passing of the male catheter?

8. *Intracation of the Female Catheter.*—The female catheter has been suddenly drawn out of the fingers of the surgeon into the cavity of the bladder. The accident is to be ascribed to successive, simultaneous contractions of the cervix vesicæ and levator ani, excited through incident and reflex nerves, in connexion with the spinal marrow.

Pathology of the True Spinal System.

Dr. Hall observes that, in disease, the morbid stimulus may act upon the incident, the central, the reflex part of the excito-motory arc or arcs, and produce corresponding effects,—corresponding diseases. So we may have centripetal, or central epilepsy, and we may have spasmodic tic, and other affections, from an affection of the reflex or motor nerves. Dr. Hall divides the class of spasmodic diseases into three sub-classes, of which he presents a Table.

TABLE OF THE PATHOLOGY OF THE TRUE SPINAL SYSTEM.

I. Diseases of the Incident Nerves.

I.	1. Dental 2. Gastric 3. Intestinal	} Irritation in Infants.	1. The Crowing Inspiration.
			2. Strabismus, Spasm of the Fingers and Toes; Strangury; Ticsmus; &c.
II.	1. Gastric 2. Intestinal 3. Uterine	} Irritation in Adults.	3. Convulsion.
			4. Paralysis.
			I. Hysteria.
			II. Asthma.
			III. Vomiting; Hiccup; &c.
III.			IV. Epilepsy.
			V. Puerperal Convulsion; &c.

III. Traumatic Tetanus; Hydrophobia; &c.

II. Diseases of the Spinal Marrow itself.

- I. *Inflammation and other Diseases.*
- II. *Diseases of the Vertebrae and Membranes.*
- III. *Counter-pressure, &c. in Diseases within the Cranium.*
- IV. *Centric Epilepsy, Tetanus, &c.*
- V. *Convulsions from Loss of Blood; &c.*

III. *Diseases of the Reflex or Motor Nerves.*I. *Spasm.*

1. *Spasmodic Tic.*
2. *Torticollis.*
3. *Contracted Limbs; &c.*

II. *Paralysis.*

Dr. Hall observes that the undue or unduly diminished quantity of blood in the medulla oblongata induces spasm or paralysis. It has been found too, in experiments, that lesions of the encephalon induce *paralysis only*; whilst lesions of the medulla oblongata and spinalis induce *convulsion or paralysis*, according to its severity. Hence it becomes an important question to determine the cause of convulsive affections in *disease* of the encephalon. This cause appears to be either irritation or counter-pressure; the former may act through the medium of the nerves distributed to the membranes, as the recurrent of the trifacial of Arnold,—as in epilepsy induced by a spiculum of bone; the latter is illustrated by the case of meningitis by Dr. Abercrombie, already quoted, in which the anterior fontanelle became prominent; pressure upon it induced convulsion.

Dr. Hall proceeds to treat of some pathological facts in detail.

Disease, he says, may take place in any of the three divisions of which the true spinal or excito-motory system consists: in the course of the incident excitator nerves; in the spinal marrow or centre of the system; or in the reflex, motor nerves. The action of disease, in the first of these cases, is incident, and either direct in its course, or from *above, downwards*, or retrograde, that is, from *below, upwards*. It always induces a *spasmodic* affection. The action of disease, or of the causes of disease, in the third, is, he believes, never retrograde, and may induce either spasm, or paralysis.

1. *The Cynic Spasm.*—"The first fact which I shall adduce in illustration of these principles, is one to which I have ventured to apply the designation of the *cynic spasm*; for it is probably the *σπασμος κυνικος* of Hippocrates; and it is certainly allied to the Sardoniac laugh. It is excited through filaments of the trifacial nerve (the '*nervi ethmoidalis ramus narium externus*,' the '*nervi lateralis narium superiores, et inferiores*') ; these, when excited under particular circumstances, induce contractions of the levatores alæ nasi. In a patient in the deep coma of apoplexy, I pierced the skin on the cheek, the hand, the thigh, &c. with a pin; there was no manifestation of sensation—no motion whatever. I then touched the eye-lash and the *internal* nostril with a feather; this induced action of the orbicularis and levator alæ nasi: I then pricked the *exterior* part of the nostril with the pin; the action of the levatores was immediate."

2. *The Mechanism of Vomiting.*—Dr. Hall's idea is this:—The contents of the thorax and abdomen are subjected to the sudden and almost spasmodic contraction of all the muscles of expiration, the larynx being closed so that no air can escape from the chest, and the two cavities being made one by the floating or inert condition of the diaphragm.

The mere mechanism of the act of vomiting differs little, therefore, from that of coughing, by which, indeed, the contents of the stomach are fre-

quently expelled. The larynx in the former is, however, permanently, in the latter only momentarily, closed; and there is, doubtless, a different condition of the cardiac orifice and of the œsophagus.

So far as we can see, there is no proof of that passive, or floating condition of the diaphragm which constitutes the gist of Dr. Hall's hypothesis. Experiments, observation, and actual feelings, rather go to establish the contraction of the diaphragm during the act. An inspiration is made, the diaphragm *remains down*, the larynx is closed, and the abdominal muscles at the same time contract. Vomiting is neither concurrent with inspiration nor with expiration. It follows the former, and precedes the latter. The breath in fact is held while we vomit. Of course the stomach may or may not contract. In many instances we believe that it does.

3. *Failure of the Excito-Motor Power.*—In cases of disease of the head, of exhaustion, of sinking—as the general powers of life decline, the gradual failure of the excito-motory power is particularly marked.

The first thing observed is, that the eye-lids do not perfectly close during sleep; they still, however, close on touching the eye-lash. In a short time, not only the continued action of the orbicularis is defective, but the excitability of the border of the eye-lid is impaired, and the orbicularis ceases to act on touching the eye-lash.

The second effect of a failing excito-motory power is an affection of the respiration. This is first *audible*, as in sleep. It then ceases to be *equable*, and at length consists in sudden, *catching* inspirations,—a state from which Dr. Hall has never seen a patient recover.

Lastly, the sphincters lose their power.

A Section on the *Therapeutics of the True Spinal System*, contains a few hints.

Their principal applications are in the treatment of asphyxia, of certain kinds of convulsion, of sickness, of asthma, of impaired power of the sphincter vesicæ.

In some cases of asphyxia, and especially in the case of the asphyxia of the newly-born infant, the excitement of the trifacial, or spinal, nerves, by exposure to the cold atmosphere, or dashing cold water on the face or trunk, is a most important remedy. We may also irritate the nostrils, the fauces, or the glottis, and attempt to excite the actions of sneezing, vomiting, and coughing. Galvanism may be applied with similar views.

The occurrence of convulsion is frequently prevented, and the larynx, closed in certain convulsions, is opened, by dashing cold water over the face.

Asthma is sometimes removed by the inhalation of certain vapours, as the smoke of the stramonium, the vapour of creosote, &c.

Enuresis has been remedied by the action of cantharides.

The feeble action of the uterus has been excited by the *secale cornutum*.

The Ganglionic System, or System of Secretion, Nutrition, &c.

Dr. Hall remarks that the cerebral system is concerned with *psychical* or mental acts merely; the true spinal, with *physical* acts on the *masses* of bodies to be appropriated to or expelled from the animal œconomy; whilst

the ganglionic system relates to the *chemical* changes in the disposition of the *atoms* of the animal body, its solids, fluids, &c. He goes on to state that there are *external* as well as *internal* parts which require the interstitial deposit and re-absorption of the atoms of animal matter. It was to be *expected*, therefore, that there would be an external as well as internal ganglionic and nutrient system. This we find accordingly, although it has never been so viewed or stated before.

For the external organs, the ganglia on the posterior roots of the spinal nerves are probably destined; for the head, the series of ganglia found upon and in connexion with the trifacial nerve; for the lungs, stomach, &c. the pneumogastric; for the internal viscera, the ganglionic system, commonly so called.

Dr. Hall alludes in terms of just commendation to Sir Charles Bell's discovery of the difference of function between the anterior and posterior roots of the spinal nerves. He adds:—

“ But there is no connexion between the function of sensation and the existence of a ganglion: the unequivocal sentient nerves, as the olfactory, the optic, the auditory, are without any thing very distinct of this kind, whilst the ganglionic nerves are without sensibility, or nearly so.

The questions, then, still remain, why are the portio major of the trifacial, especially, and of the posterior spinal nerves, provided with ganglia? The reply to these questions, and the argument, may be stated thus:

1. There is an internal nerve for formation, nutrition, secretion, &c. 2. This nerve is ganglionic. 3. There are external organs and structures requiring nutrition, &c. 4. There are also external ganglionic nerves. The inference is plain, that these constitute the external ganglionic sub-system. The fifth especially abounds with ganglia.

It is true that the semilunar and external spinal ganglia differ in appearance from the ganglia of the sympathetic, as Sir Charles Bell has well displayed. What is the nature of this difference? To this question I find no reply in authors. It is plain, however, that the difference consists in their being, alone, *plexic*. The internal ganglionic nerve is purely nutrient: its ganglia are simple. The external involve sentient, and I believe excitory, nerves, with the nutrient; they combine, therefore, the appearances of the plexus and of the ganglion.

But are there any other anatomical facts, any physiological and pathological facts, which lead us to think that the trifacial and spinal nerves, besides their other functions, possess a nutrient and secretory power? Indubitably there are.

The distribution of this nerve to the lacrymal, parotid, and submaxillary glands, can only be for secretion. I may refer, upon this point, to the beautiful Dissertation of Signor Bellingeri.

I must also notice particularly a branch of the trifacial nerve discovered by M. Arnold, and termed by him the *recurrent* of the fifth. It returns from the ophthalmic branch of this nerve, to be distributed between the laminae of the tentorium. What can its function be, in this situation? It cannot be *touched*. It cannot, then, be for *sensibility*. It cannot be for *excited* motion. It can only be for formation, for nutrition. Such, then, is the *probable* function of this nerve.” 122.

Dr. Hall sums up his observations on the Nervous System thus:

This system is divisible into—

I. The Cerebral, or psychical, or that of our relation to the external world *mentally*;

II. The True-spinal, or excito-motory, or that of the reflex action of

the *vis nervosa*, or of our appropriation of certain objects of the external world *physically* and *in masses*; and

III. The Ganglionic, or the system of *interstitial*, or *chemical*, or *atomic* changes, of nutrition, secretion, &c. also under the immediate influence of the *vis nervosa*.

IV. Intermediate between the *first* and *second* of these is the influence of *emotion*, *passion*, &c.

V. Intermediate between the *second* and *third* are the internal muscular organs, the heart, the stomach and intestines, &c.: and these are under the *immediate* influence of the *vis nervosa* and the *irritability* of the muscular fibre.

VI. Lastly, the *tone* and *irritability* of the general muscular system are *constant* and *direct* effects of the True-spinal and Ganglionic systems, and of the *vis nervosa*.

The fourth Chapter is dedicated to the Fœtus and Infant. Some interesting remarks on the anencephalous fœtus are followed by others on the accidents or diseases of *birth*—*apoplexy* and *asphyxia*.

Of Congenital Asphyxia.—Dr. Hall draws particular attention to this.

"The infant is said to be *still-born*. We wait for the establishment of respiration, and this event does not take place. There is a general alarm. We now see the value and importance, in a *practical* point of view, of the principles of the physiology and pathology of the nervous system which I have been detailing. I have stated that respiration is an *excited* function; that it belongs to the excitomotory sub-division.

In one word, then, all our efforts must be instantly made to *excite* respiration. Now what are the channels through which this act may be excited? What are the excitors of respiration? The *trifacial*, the *pneumogastric*, and the *spinal* nerves.

The *trifacial* nerves must be excited by *forcibly* blowing or dashing cold water on the face, by stimulating the nostrils by ammonia, snuff, pepper, or the point of a needle.

The *spinal* nerves must be excited by *forcibly* dashing cold water on the thorax, the thighs; by tickling or stimulating the sides, the soles of the feet, the verge of the anus.

What the pneumogastric is, as the excitory nerve of respiration, under ordinary circumstances, the trifacial and the spinal nerves are, in cases of asphyxia, or suspended respiration. The means recommended for exciting respiration through these excitors, frequently induce a sudden act of inspiration, which proves the first of a series, so essential to animal life.

The important point to be mentioned, is, that it is not the mere application of cold, but the *sudden* application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation*. To apply cold to a cold surface would only be to sink the general powers of life. The infant should be kept warm; the warm bath may be required; and then cold water must be applied, in *moderate quantity*, but with *force*.

But if these attempts to *excite* respiration through the trifacial and spinal nerves fail, we must *imitate* this function, by artificially distending the lungs, in the hope that, eventually, it may be excited through its wonted channel, the *pneumogastric*.

To effect this, the practitioner's lips are to be applied to those of the infant, interposing a fold of linen, and he is to propel the air from his own chest, slowly and gradually, into that of the infant, closing its nostrils, and gently pressing

the trachea on the œsophagus. The chest is then to be pressed, to induce a full expiration, and allowed to expand, so as, if possible, to effect a degree of inspiration.

But it is important, in doing this, that the practitioner himself should previously make *several deep* and rapid respirations, and, finally, a full inspiration. In this manner, the air expelled from his lungs into those of the little patient, will contain more oxygen and less carbonic acid, and consequently be more capable of exciting the dying embers of life.

I base this suggestion on an interesting communication by Dr. Faraday, in the London and Edinburgh Philosophical Magazine, vol. iii, p. 241, for October 1833, to which I have already referred. It is ascertained that respiration may be suspended longer, as in diving, or in experiments, after such repeated forced respirations, than in ordinary circumstances, from the greater purity of the air in the lungs.

If all these plans should be tried in vain, I would strongly advise galvanic or electric shocks, to be passed from the side of the neck to the pit of the stomach, or in the course of any of the *motor respiratory* nerves, and their appropriate muscles. No time should be lost in sending for a proper apparatus; but, should the lapse of an hour, or even more, take place before it can be obtained, still it should be sent for and tried.

When respiration is established, the *face* must *still* be freely exposed to the air, whilst the temperature of the limbs and body is carefully sustained.

In the *midst* of these efforts, it should, in the next place, be the office of two other individuals to maintain or restore the *temperature* of the little infant, by gently but constantly pressing and rubbing its limbs between their warm hands, passing them upwards, in the direction of the venous circulation.

An enema of gruel, at 98° or 100°, or *higher*, with a little brandy, should be administered.

As soon as possible, a little warm liquid, as barley-water, at blood-heat, should be given by means of the proper bottle, furnished with leather or soft parchment. A teaspoon must not be used for fear of choking. If the infant draws the liquid through its own lips, by its own efforts, there is no danger.

Lastly, these various means should be continued or repeated in the most persevering manner." 142.

Of Secondary Asphyxia.—Dr. Hall directs attention to this.

When an infant has been restored from a state of asphyxia, it frequently relapses into a *secondary asphyxia*, and is lost.

Sir Humphrey Davy experienced a secondary attack after breathing hydro-carbonate. A corporal of the Guards, after being apparently restored from asphyxia from submersion, was affected with convulsions and expired.

In a case of asphyxia from laryngitis, after the patient had ceased to breathe, the trachea was opened, artificial respiration was performed, and re-animation took place; but the patient expired shortly afterwards.

These facts should keep us upon our guard against secondary asphyxia: we should watch our patient, and be prepared with all our remedies; we should dash cold water on the face occasionally, and expose the face of the patient to the cool, free, open air; and we should enjoin, in an adult, frequent, full, respirations.

Dr. Hall adds:—"This secondary asphyxia is the cause of *sudden* death in some other diseases, as the *crowing inspiration*, to be treated of hereafter. In this disease, the infant sometimes dies in an instant—in the

twinkling of an eye—much more suddenly, in fact, than from *mere asphyxia*. I believe the blood is poisoned from the imperfect respiration, and that the *coronary circulation* becomes insufficient to sustain the action of the heart, and that this organ therefore fails. It is in this manner that the most sudden of sudden deaths occurs, both in some cases of what I have designated secondary asphyxia, and in disease of the heart itself, and especially in ossification of the coronary arteries,—the impeded circulation through them which occurs in the fatty heart, and other diseases of this organ and of its valves.

The *fact*, in regard to the crowing inspiration, should suggest what is found so useful in other respects in this disease; viz. through *change of air*, and free exposure to its genial influences. The same indication is especially to be fulfilled in *all* cases of asphyxia, for a considerable time after all apparent danger has ceased."

"CHAPTER V. is occupied with the *Diseases of the Nervous System in Infants and Children*.

Some are of cerebral, some of spinal origin. The *cerebral* diseases of infants may be divided into—

1. *Encephalitis*.
2. *Tuberculous Hydrocephalus*.
3. *Hydrocephaloid Diseases*.
 - a. *From Intestinal Disorder*.
 - b. *From Exhaustion*.

Dr. Hall gives a good account of the symptoms of encephalitis and tuberculous hydrocephalus. The following case of supposed encephalitis, with anasarca, after Scarlatina, is interesting.

"A year and a half ago, Mr. Duffin took me to Highgate: we met Mr. Snow. The patient was a boy, aged twelve. Sixteen days before, he had gone through scarlatina, in its very mildest form; he had scarcely been confined to bed, and had not suffered from the *nimia medici diligentia*; he had appeared quite well.

On this Sunday morning he was seized with swelling of the face, which came on and increased equally suddenly and rapidly. With this symptom there was the appearance of sudden and serious collapse, and, soon afterwards, convulsions, followed by coma.

When I first saw my patient, there had been, first, the appearance of collapse and sinking, then convulsions, and these were followed by deep coma. Wine and brandy on the table indicated sufficiently the previous state of the case. I felt persuaded, in spite of these appearances, that the only hope was afforded by relieving the vascular system within the head, and yet that the measure was not unattended with danger. This view was freely explained to the boy's father, who very sensibly said he confided his son's life to the hands of his medical advisers.

We placed the patient upright, and Mr. Duffin opened the jugular vein. I kept my finger on the pulse whilst we allowed *twenty ounces* of blood to flow! The convulsions ceased, and the coma diminished, but did not disappear. We then ventured to open a vein in the arm, and abstracted seven more ounces of blood!

In less than an hour the little patient knew his parents. We prescribed calomel and purgative medicine; a cold lotion to the head, and fomentations to the feet: afterwards leeches were applied; but the bloodletting was *the* remedy to which the amendment was obviously due. The little boy recovered forthwith, and, what is important, without the least symptom of the morbid effects of loss of blood." 153.

Dr. Hall remarks: 1st, that acute anasarca and convulsions may, and frequently do, follow the mildest cases of scarlatina; perhaps, because, after *such* cases, less precaution is usually taken to clear the bowels; 2nd, that in all cases of acute anasarca there is the danger of an affection of the head, arachnitis, or congestion, coma, or convulsion; 3rd, that in such cases the remedy is bloodletting—*bloodletting until relief and security are obtained*; and 4th, that there is, in such cases, great *tolerance* of this remedy.

The Hydrocephaloid Disease.

Dr. Hall fairly vindicates his claim to originality in the description of this complaint.

The causes are thus mentioned. The exhaustion, on which it principally depends, has its origin, in early infancy, chiefly in diarrhoea, or catharsis; in the later periods of infancy, in the loss of blood, with or without the relaxed or evacuated condition of the bowels. The state of diarrhoea has generally depended upon improper food, or intestinal irritation. It has very frequently succeeded to weaning, or to other changes in the diet, or to constipation. The catharsis has followed the administration of an aperient medicine, which, at such a moment of disorder of the stomach and bowels, is apt to act excessively. The exhaustion from loss of blood generally follows the inappropriate or undue application of leeches, or the use of the lancet. Dr. Hall, indeed, gives an useful caution. Of the whole number, he says, of fatal cases of disease in infancy, a great proportion occur from this inappropriate or undue application of exhausting remedies. This observation may have a salutary effect in checking the ardour of many young practitioners, who are apt to think that if they have only bled, and purged, and given calomel enough, they have done their duty; when, in fact, in subduing a former, they have excited a new disease, which they have not understood, and which has led to the fatal result.

Dr. Hall divides the affection into two stages—the first that of irritability, the second that of torpor.

In the first stage, he goes on to observe, the infant becomes irritable, restless, feverish; the face flushed, the surface hot, and the pulse frequent; there is an undue sensitiveness of the nerves of feeling, and the little patient starts on being touched, or from any sudden noise; there are sighing and moaning during sleep, and screaming: the bowels are flatulent and loose, and the evacuations are mucous and disordered.

If, through an erroneous notion as to the nature of this affection, nourishment and cordials be not given, or if the diarrhoea continue, either spontaneously, or from the administration of medicine, the exhaustion which ensues is apt to lead to a very different train of symptoms. The countenance becomes pale, and the cheeks cool or cold; the eye-lids are half closed, the eyes are unfixed, and unattracted by any object placed before them, the pupils unmoved on the approach of light; the breathing, from being quick, becomes irregular and affected by sighs; the voice becomes husky, and there is sometimes a husky, teasing, cough; and, eventually, if the strength of the little patient continue to decline, there is a

crepitus or rattling in the breathing; the evacuations are usually green; the feet are apt to be cold.

A similar train of symptoms occurs in other cases, in which the strength of the little patient has been subdued and the vascular system exhausted by the abstraction of blood. In both cases, leeches are sometimes again applied to subdue this new form of disease, under the erroneous notion of a primary cerebral affection. This measure infallibly plunges the little patient into imminent, if not irretrievable danger. Sometimes the sinking state goes on in spite of every appropriate remedy. Stimuli, if efficacious, reduce the frequency of the pulse, and restore the wonted warmth, colour, expression, and smiles to the countenance.

Dr. Hall particularly insists on a close observation of the condition of the cheeks, in regard to colour and warmth. That condition, he observes, may be considered as the pulse of very young infants, indicating the degree of remaining power, or of exhaustion. In the present case, especially, there is no symptom so important, so distinctive. It is from the condition of the cheeks, in conjunction with a due consideration of the *history*, that the diagnosis of this morbid state, and the indication of the appropriate remedies, are chiefly to be deduced. The general surface, and especially the hands and feet, also afford important sources of information as to the condition of the nervous or vital powers. Next to these, the degree of frequency of the pulse, and the character of the breathing, are points of the greatest importance; during the stage of irritability, the breathing is quick; during that of torpor, it is slower, irregular, suspirious, and, finally, crepitous; the pulse changes in its beat, from being full becoming smaller, but retaining, perhaps, its former frequency.

We should be especially upon our guard, not to mistake the stupor, or coma, into which the state of irritability is apt to subside, for the natural sleep, and for an indication of returning health. The pallor and coldness of the cheeks, the half-closed eye-lid, and the irregular breathing, will sufficiently distinguish the two cases.

The following is Dr. Hall's *methodus medendi*. The remedies, he says, for this morbid affection are such as will check the diarrhoea, and afterwards regulate the bowels, and restore and sustain the strength of the little patient. With the first objects, it may be necessary to give the *tinctura opii*, and chalk, and, afterwards, the *pilula hydrargyri*, *rhubarb*, and *magnesia*; with the second, *sal volatile*, but especially *brandy*; and proper nourishment, are to be given according to circumstances. But in this, as in many cases of infantile disorders, the milk of a young and healthy nurse is the remedy of most importance; in the absence of which, ass's milk may be tried, but certainly not with the same confident hope of benefit.

Five or ten drops of the *sal volatile* may be given every three or four hours; and twice or thrice in the interval, five or ten drops of *brandy* may be given in arrow-root done in water. As the diarrhoea and appearances of exhaustion subside, these remedies are to be subtracted, the bowels are to be watched and regulated, and the strength is to be continually sustained by the nurse's or ass's milk. The *brandy* has sometimes appeared to induce pain; *sal volatile* is then to be substituted for it; a dose of *magnesia* has also appeared to do good.

For the state of irritability, the warm bath is a remedy of great efficacy. For the coma, a small blister, or sinapism, should be applied to the nape of the neck. A state of exhaustion of the general system, as I have observed elsewhere, by no means precludes the possibility of real congestion of the brain. It rather implies it. In extreme cases, there are not only the symptoms of cerebral congestion during life, but effusion of serum into the ventricles of the brain is found on examination after death.

In every case, the extremities are to be kept warm by flannel, and the circulation should be promoted in them by assiduous frictions. It is of the utmost importance carefully to avoid putting the little patient into the erect posture. A free current of air is also a restorative of the greatest efficacy.

The Croup-like Convulsion.

Dr. Hall remarks that the origin of the croup-like convulsion was "erroneously referred" by the late Dr. J. Clarke to the cerebrum; and by the late Dr. Hugh Ley to compression and consequent paralysis of the pneumo-gastric and its recurrent nerves. It is in reality, he adds, an excitation of the true spinal or excito-motory system. It *originates* in

- I. 1. *The Trifacial*, in teething.
2. *The Pneumogastric*, in over- or improperly-fed infants;
3. *The Spinal nerves*, in constipation, intestinal disorder, or catharsis. These act through the medium of

II. *The Spinal Marrow*, and

- III. 1. *The Inferior or Recurrent Laryngeal*, the constrictor of the larynx;
2. *The Intercostals and Diaphragmatic*, the motors of respiration.

This mode of viewing an important disease and *Class* of diseases is entirely new, and is the only true one. It points, too, to the *causes* and the *cure*. Dr. Hall presents us with an appropriate

Table of the Crowing Inspiration.

I. <i>The Excitors.</i>	II. <i>The Centre.</i>	III. <i>The Motors.</i>
1. <i>The Trifacial.</i>	<i>The Medulla oblongata.</i>	1. <i>The Recurrent of the Pneumogastric.</i>
2. <i>The Pneumogastric.</i>		2. <i>The Intercostals.</i>
3. <i>The Spinal.</i>		3. <i>The Diaphragmatic.</i>

When the *crowing inspiration* passes into actual *convulsion*, the larynx, from being *partially*, becomes *perfectly closed*, and there are violent *expiratory* efforts, with consequent congestion of the encephalon, and all its terrific train of evils!

The same mode of viewing this important subject leads us to give its proper place to *each* of the series of symptoms: the *spasmodic* or *spinal* are the *first* in order; the *cerebral* the *second*. We are thus enabled to see the just relation and position of effusion into the ventricles of the brain in regard to this disease; it is the *effect*, not the *cause*.

Dr. Hall first combats the opinion of the *cerebral origin* of the disease. He argues:—

1. That the *changes* in the symptoms, whether for better, or for worse, are far too sudden to be dependent on *disease* within the head.

2. That the *effects* of its causes and of its remedies are of a character totally different from what would be seen in such disease.

3. That hydrocephalus—tubercular hydrocephalus—does not commonly produce the croup-like convulsion. This statement must, however, be received with caution, and be submitted to new observation.

Dr. Hall next assails the hypothesis of Dr. Hugh Ley.

In the *first place*, he believes that the cases adduced to support this view, are not cases in point, but, in reality, cases of other diseases.

“*Secondly*, supposing pressure upon the pneumogastric to exist, it would induce totally different phenomena from those actually observed in this disease: and it would not explain the *series* of phenomena which actually occur in it; for,

Such pressure would induce simple *paralysis*. This would, in the first place, affect the recurrent nerves, and the dilator muscles of the larynx; it would induce a *partial* but *constant* closure of that orifice, and a permanent state of dyspnoea, such as occurred in the experiments of Legallois, or such as is observed to be excited in horses affected with “*cornage*” or *roaring*, as described by M. Dupuy in his treatise “*De la Fluxion Périodique*,” 1829, p. 117, &c. It would also induce paralysis of the inferior portion of the pneumogastric, with congestion in the lung or lungs, and the well-known effects upon the stomach of the division of this nerve, with paralysis of the cardia.

The disease in question, on the contrary, variously designated, “*peculiar convulsion*,” “*spasm of the glottis*,” &c., is obviously a *part* of a more general spasmodic affection, and frequently, indeed most frequently, comes on in the midst of the first *sleep*, in the most *sudden* manner; receding equally *suddenly*, to return, perhaps, as before, after various intervals of days, weeks, or even months; very unlike paralysis from *any* cause. Nay, the convulsive efforts in the muscles about the larynx are frequently quite obvious. There is even opisthotonos, or comprosthotos, in some cases.

Thirdly. It not unfrequently involves or accompanies, as I have said, *other affections indisputably spasmodic*, as distortion of the face, strabismus, contractions of the thumbs to the palms of the hands,—of the wrists, feet, toes, general convulsions, and sudden dissolution,—a series of phenomena totally unallied to paralysis.

Fourthly. Indeed the larynx is sometimes *absolutely closed*,—an effect which *paralysis* of the recurrent nerve and of the dilator muscles *cannot* produce.

Fifthly. Paralysis from the pressure of diseased glands would be a far less *curable disease*, a far less *variable disease*, a far less *suddenly fatal* disease than the croup-like convulsion.

Sixthly. Almost all recent cases are at once relieved by attention to three or four things, viz. the state, 1, of the *teeth*; 2, of the *diet*; 3, of the *bowels*; and 4, by change of *air*; they are as obviously produced or reproduced by the agency of errors in one or more of these.

Seventhly. In fact, the croup-like convulsion is a *spasmodic disease*, excited by causes situated in the nervous centres, or eccentrically from them; in a case of spina bifida already mentioned, a croupy and convulsive

inspiration was induced by gentle pressure on the spinal tumour; in cases from teething the attack has been induced and removed many times by *teething*, and by freely *lancing the teeth*, by crudities, and by emetics, by constipation and by purgatives, by change of air, &c.

Eighthly. There is a series of facts which prove the connexion of this disease with other forms of convulsions in children, and with epilepsy in the adult subject.

Ninthly. In protracted cases, congestion and effusion within the head occur as *effects* of this disease.

Lastly. Innumerable cases of undoubted croup-like convulsion have occurred, in which no enlarged glands could be detected in any part of the course of the pneumogastric nerve."

Dr. Hall's idea of treatment comprises the remedies—

1. *Against the attacks.*
2. *In the attacks, and in the threatening of the attack.*
3. *Against their effects.*

The remedies against the attacks, or the prevention, consists in avoiding all the exciting causes: dental, gastric, intestinal irritation; passion; vexation; disturbance; interrupted sleep, &c.

The remedies in the threatening of attacks consist in the watchful and prompt repetition of the same treatment; lancing the gums, relieving the stomach and the bowels. The *sleep* especially should be watched, and if there be a sardonic smile, or starting, or other symptoms, the little patient must be *gently* awakened, and the remedies just enumerated should be administered. Mental agitation must be most cautiously avoided. After the gum-lancet, Dr. H. would advise a copious enema of warm water.

If there be great threatening of an attack, Dr. Hall would tickle the fauces, dash cold water on the face, and irritate the nostrils, having the patient placed, as speedily as may be, in the warm bath.

To guard against the effects of the attacks, we may deplete the blood-vessels about the head with cupping, or leeches, apply an alcoholic lotion constantly all over the head, or, if the case be urgent, the ice-cap.

In addition to these measures, the secretions must be corrected, mild mercurials being given, perhaps, to affect the system; and diuretics, if the urine be scanty; afterwards, change of air is of undoubted efficacy; and a very mild tonic plan may be added with advantage, as minute doses of the sulphate of quinine, of the carbonate of iron, &c. Sponging with *warm* salt and water is also a valuable auxiliary remedy.

Dr. Hall dilates very fully on the employment of the *gum-lancet*. He does not use it merely to let the teeth traverse the gum, but as a sort of depletory scarification. We should lance, says he, the gums *freely* and *deeply*, over a great part of their extent, *daily* or *even twice a day*, and apply a sponge with warm water, so as to encourage the flow of blood.

The principal part to be lanced is the more prominent portion of the gum; but, in some urgent instances, Dr. H. has recommended the *lateral* portions also to be freely scarified.

We fear if this plan were generally adopted, that much mischief would be inflicted on the teeth.

Dr. Hall, after some further remarks, adds:—"I cannot conscientiously omit the expression of my conviction that the bloodletting system, and the

calomel system of treatment, recently in vogue in this complaint, under the sanction of the highest authority, and under the impression that the affection was of *cerebral origin*, have been extremely injurious in their consequences.

I have seen only one case in which the plan which I have here proposed has proved unsuccessful, when employed in the *dawn* of the disease; and that case was attended by induration of the medulla oblongata, and tetanic symptoms; it was, in a word, of centric origin. But I have seen innumerable cases in which bloodletting and calomel had not prevented the recurrence of convulsions, and the consequent effusion into the ventricles of the brain."

For our own parts, while we admit that there is a great deal of truth in Dr. Hall's observations, we must say that they appear to us to be rather too exclusive. We certainly do think that, in some instances, it is requisite to attack the head more actively than he advises. At the same time, we would earnestly beg the practitioner to bear what is said by our author in mind.

Paralysis from Dentition.

The following is an interesting case, the more so as a child of Dr. Grant's of Thayer Street, was the subject.

"A little girl, aged twenty months, was taken, when suffering from dentition, with loss of the power of elevating the right arm—that of closing the hand remaining; there was no *other* symptom of cerebral affection. The suffering from dentition was undoubted; I therefore concluded that the case was one of paralysis from teething.

The gums were freely lanced, the bowels were well moved, the diet strictly regulated; and, for *fear* of hidden disease within the head, two leeches were applied. An embrocation was prescribed for the arm.

A few days after the attack of paralysis, this little girl was seized, in the early part of the night, with a fit of crowing inspiration. This event confirmed me in my diagnosis. The issue justified the view I had taken. The child recovered *perfectly*, without any energetic remedy being used for cerebral affection, by continued attention to the state of the gums, the stomach, and the bowels; an event which could scarcely have occurred from such simple measures, had there been such decided affections arising from cerebral disease." 189.

The sixth chapter is devoted to the—

Pathology of the Nervous System in Adult Age.

From infantile to adult age the *cerebral* system undergoes a gradual and progressive development; many of the phenomena of the *true spinal* system are consequently *obscured*. But they are only obscured, for, in the close of life, the true spinal functions are as energetic and as essential as its dawn.

Dr. Hall again draws attention to the distinction between *centric* and *eccentric* forms of disease of the nervous system—a distinction of the greatest importance, no doubt. Some observations on the leading characters of *cerebral* and of the *true spinal diseases* merit notice.

Cerebral diseases, says Dr. Hall, affect primarily the cerebral functions, and the true spinal functions consecutively. The diseases of the true spinal system induce changes in the excito-motory phenomena in the first

place, and in the cerebral functions in the second. Cerebral diseases are generally more insidious in their progress than the true spinal, because slight aberrations of the cerebral functions are less observable than similar affections of the true spinal system; pain, vertigo, watchfulness, &c. are less striking than the slightest degree of convulsive movement or paralytic affection. It is on this account that the *first symptom observed* in cerebral disease is frequently one belonging to the true spinal system, especially *vomiting*, perhaps *strabismus*.

The true spinal diseases, especially those of eccentric origin, affect, in a remarkable manner, the set of functions belonging to this system: those of the eye and eye-lid; those of the larynx, of the pharynx; the respiration; the action of the expulsors and of the sphincters; that state of the muscles designated by the term *tone*. We must revolve in our minds the symptoms of epilepsy, of hysteria, of tetanus, of hydrophobia; the causes and phenomena of vomiting, of asthma, of abortion, of tenesmus, and of strangury, and we shall be forcibly struck with the justice of this remark. On the other hand, every convulsive effort affects the brain with congestion and its consequences, of which a fatal coma or effusion are not the least frequent.

Memoirs on the Condition of the Muscular Irritability in Paralytic Limbs—on the Morbid Reflex and Retrograde Actions of the Spinal Marrow—and on the Distinct Influence of Volition, of Emotion, and of the *Vis Nervosa*, follow. These Memoirs were published in the *Medico-Chirurgical Transactions*, in reviewing which, we noticed them fully. It will not be necessary, therefore, to revert to them.

The seventh chapter is occupied with the *Diseases of the Nervous System in Adult Age*.

Dr. Hall treats first of the:—

Diseases of the Cerebral System.

Speaking of *Encephalitis*, Dr. Hall notices a fact which should be recollected. From insensibility, the patient does not void the bladder; this viscus becomes excessively distended, and there may be a stillicidium urinæ. In every case of insensibility—in every case of involuntary discharges of urine, we must examine the hypogastric region. We may observe that the same thing is apt to occur in fever, when there is cerebral oppression.

Dr. Hall draws attention to another practical fact. Not only the dawn and the course of encephalitis are insidious, but its termination is particularly so. In some cases, an unexpected state of *sinking* takes place, in which the symptoms, whether pain or delirium, &c. subside, and the patient is thought to be convalescent. The same event occurs in some other diseases, especially enteritis. We must beware of this fact, too, and suspect some such insidious change, unless *all* the symptoms concur to denote returning health.

While alluding to the morbid appearances of encephalitis, Dr. Hall particularly directs attention to the fact—that the inflamed brain is *tumefied*. This fact explains the occurrence of pressure, and its varied effects on different parts of the encephalon, frequently situated remotely from the part affected with inflammation, softening, &c. It is on this principle that we explain the occurrence of various affections of the true spinal system

in inflammation of different parts of the cerebral system,—the strabismus, the vomiting, the various convulsions which occur in the early stage; and the stertor, the relaxed sphincters, &c. which occur in the later stages of encephalitis.

On Congestion and Hæmorrhage.

Dr. Hall occupies a section with the subject of cerebral congestion and cerebral hæmorrhage. He observes, and observes truly, that the *antecedent* symptoms of palsy and apoplexy, like those of many other diseases, can only be learnt in private practice. In fact, however beneficial observation in hospitals may be, a man would be a coarse and a careless, and an unsuccessful practitioner who acted upon it alone.

Dr. Hall remarks that the attack of congestion, or of hæmorrhage itself, is frequently of the most sudden kind. There is total loss of sense and motion; the patient is flushed, comatose, breathes with stertor, and the pulse is strong and full. This is probably the case of congestion. In the attack of considerable hæmorrhage, there are the symptoms of *shock* inflicted upon the nervous system; pain of the head is followed by paleness, sickness, and vomiting, and fainting; coma, or paralysis, loss of speech, or of the power of swallowing, succeed immediately, or more slowly, probably according to the promptitude or the extent of the hæmorrhage. In the attack of partial hæmorrhage, these symptoms are observed in a slighter form; and it is some paralysis, hemiplegia, partial loss of speech, &c. which ensues. These observations, though, perhaps, in the main correct, are certainly not universally true. We have seen cases of congestion attended with symptoms of depression, and of hæmorrhage, with such symptoms as are attributed to congestion.

Dr. Hall applies his views with regard to bloodletting to the treatment of these cases.

"The principal point which I wish to press upon my reader, in reference to bloodletting, is its different measure proper in mere congestion and actual rupture. In the former there is extreme tolerance of loss of blood; in the latter, the system is extremely, and even dangerously, susceptible of this loss. The diagnosis is frequently difficult. I have pointed out the most distinctive symptoms. In addition to an attention to these, I must repeat the important injunctions—to place *the patient* in the perfectly upright posture before the blood is allowed to flow; to watch his countenance, his breathing; to keep *the finger* on his pulse; and, the moment the slightest indication of approaching syncope takes place, to arrest the flow of blood and place the patient recumbent.

If early syncope occur, we must trust the future to local depletion by means of cupping to the occiput and the neck. If the patient lose a large quantity of blood without change, pursue and repeat the remedy boldly; his life depends upon ample depletion of the sanguiferous system: we must add to the energetic use of the lancet, that of the cupping instrument." 278.

There follow some remarks *on the Use of Tracheotomy.*

This may be employed so as to afford *time* for remedies to act. Dr. Physick suggested it for hydrophobia—it *might* be employed in that form of tetanus in which the patient dies of asphyxia—but, says Dr. Hall, "in *apoplexy from congestion*, in the *coma after epilepsy*, in *puerperal convulsion*, I am persuaded that the fatal event might be averted by the timely adoption of this measure. The patient dies of asphyxia, and of an asphyxia

which tracheotomy would, I believe, prevent; or of coma, which blood-letting would cure!" Dr. Hall adds—"there *is* such a case as paralysis of the pneumo-gastric nerve, and of the dilator muscles of the larynx; it occurs in deep intoxication, and probably in other cases of coma, as in that of apoplexy, of epilepsy, from opium, &c.

A patient affected with such paralysis from deep intoxication was rescued from impending death by tracheotomy, at the suggestion of Mr. Sampson of Salisbury. The case is published in the *Medico-Chirurgical Transactions*, vol. xx, p. 45, and forms one of the *most splendid achievements of modern surgery*."

After narrating the case at length, Dr. Hall concludes—it must be remembered—1. that dashing cold water on the face opens the larynx, and induces inspiration; 2. that there is one other measure to which recourse should be had more frequently; it is the induction of vomiting by irritating its exciters in the fauces; 3. that these and other measures must of course be fully tried before we proceed to the more formidable remedy of tracheotomy; 4. but that tracheotomy is a most important resource, and to be instituted when—*the others fail, and before it is too late*.

Mode of Action of the Causes affecting the Nervous System.—There are some brief but useful remarks on this head. It may be stated, says Dr. Hall, as a general principle, that the *first* effect of injury done to the nervous system, is a diminution of its functions; whilst the second or ulterior effect is the augmentation of those functions.

If we divide the spinal marrow in the frog, there is at the first a cessation of the reflex actions with that of the circulation; by-and-by, these return; after a time, their force is morbidly augmented.

In injuries of the brain and of the spinal marrow, in man, the same series of phenomena is observed.

When the trifacial nerve is injured by exposure to cold, there is at first numbness; afterwards, perhaps, painful tic.

When the facial nerve is affected by severe cold, there is, at first, *paralysis*, and the face is drawn to the opposite side; afterwards there is *spasm*, and the face is drawn to the side affected.

In other instances, the first effect of the disease or injury subsides, without any subsequent augmentation of function. In hemiplegia, the paralysis of the face, the lips, the tongue, the leg, the arm, generally becomes mitigated, in the order enumerated, as the disease subsides, or is mitigated by our remedies.

In like manner the other diseases enumerated may pass from the first stage into a state of mitigation or recovery, without passing into the second stage.

On the other hand, the symptoms of the first stage may go on augmenting until death ensue, or the loss of the use of the limb or part affected be complete.

Effects of Disease of the Cerebellum.

Dr. Hall is inclined to think that disease of the cerebellum induces its peculiar effects on the genital organs, by irritating the medulla oblongata. The effects observed in strangulation, in some cases of epilepsy, as well as in several experiments, induce him to suppose so.

Vomiting sometimes occurs as a prominent symptom, as in many other diseases of the encephalon. This, as well as the affections of the genital organs, is obviously a result of irritation of the medulla.

Convulsions are more frequent in diseases of the cerebellum than paralysis. They affect many parts, and resemble epilepsy; or only one part. There can be little doubt that it is the adjacent medulla oblongata which is really irritated so as to produce these phenomena.

In some instances there has been a loss of balance, such as occurs in intoxication.

Sometimes the sensibility has been affected,—exalted or impaired. In some cases there has been amaurosis.

Diseases of the cerebellum, when they induce paralysis, usually affect the *opposite* side of the body, and the inferior more than the superior extremities.

Tubercles in the Encephalon.—Dr. Hall makes an observation in regard to the diagnosis of these morbid growths, which, though it refers to no new fact, is still perhaps not familiar to all.

“In speaking of tubercles of the brain, I must allude to the important law discovered by M. Louis, in regard to tubercles:—that, beyond the age of fifteen, tubercles are never found in *any organ* of the body without being present in the *lungs*? In a doubtful case, then, we examine the condition of the thorax: if there be tubercles there, it is a presumption that there may be tubercles in the encephalon; if there be no sign of pulmonary tubercle, it is a presumption that the affection of the brain is not tuberculous. But, as pulmonary tubercles are not always easily detectible, we endeavour to ascertain, in the absence of signs, whether there be other reasons for suspecting tuberculous formation,—such as in hereditary strumous or tuberculous disposition, the general or local signs of tuberculous affection in the system, or in any organ, &c.” 288.

Mania.

Dr. Hall asks:—“Are the morbid appearances *cause* or *effect* of the mania? That they may be the effect, and that it has been too exclusively regarded as the cause, I can scarcely doubt. The appearances are usually deposits of serum and of lymph between the arachnoid and pia mater; sometimes effusion into the ventricles, sometimes injection of the cortical substance.

If encephalitis is the frequent effect of mental harass and effort, why may not these appearances be the effect of the maniacal state?” Of course, the question is an important one, incapable, at present, of determination. But it is worth keeping in mind.

Dr. Hall has other views to propose. He inquires, 1. May not the pathology of mania be entirely the result of *shock* to the nervous system, arising from *mental effort*, in one case, and *mental emotion* in the other? And, 2, may not that pathology be entirely *intra-vascular*, as in the case of *exhaustion* from loss of blood, undue lactation, &c.

Non-restraint of Lunatics.

We agree with Dr. Hall in the following opinion. It has recently been proposed to abandon *every kind* of restraint. But this is to reject necessary resources for the safety, and remedies for the malady, of the patient.

What is required is, kind and judicious restraint, in the hands of kind and judicious guardians.

But the all-important means of cure consists in *society* in which *decorum* and *gentleness* of conduct are *strictly enforced*.

Diseases of the Cerebral Nerves.

There is a section on this subject. The following case of repeated amputations on account of pain in the stump is interesting. It is communicated to our author by Mr. Bransby Cooper.

Case.—"In June, 1834, a young married woman was admitted into Guy's Hospital with an 'irritable stump,' having submitted to three amputations under the following circumstances. In the first place, she fell across a fender, and produced such extensive injury to the wrist joint as to render it necessary to apply to a hospital for relief, and, I believe, was first admitted into the London Hospital, under the care of Mr. John Scott, who amputated the forearm above the wrist. Of this operation she recovered in the usual time, and was discharged as cured. In a few weeks, however, the stump became very irritable, and she suffered from neuralgic pains, which became so intolerable that she applied to St. Thomas's Hospital, when she was admitted under the care of Mr. Tyrrell. (I am not sure whether she was at St. Thomas's or the London Hospital first.) A second amputation was then performed,—still, I think, below the elbow,—when the same circumstances followed as after the former operation, perhaps with somewhat of an increase of neuralgic sufferings, when she fell under the care of Mr. Langstaff, who, after trying constitutional remedies, had recourse to a third amputation, above the elbow. In June, 1834, the stump of the upper arm giving the same suffering as she had before been subjected to, she presented herself at Guy's Hospital, still willing to submit to any treatment which could offer any hope of permanent relief: and, after trying *veratrum*, *stramonium*, *belladonna* both internally and externally, without affording any mitigation of her sufferings, she readily submitted to the only remaining means which afforded a prospect of success—amputation at the shoulder joint, which she bore with heroic fortitude, and described the suffering as being infinitely less than she had frequently experienced during the paroxysms of her complaint; nor, in the division of the trunks of the nerves, did there appear to be more pain inflicted than in amputations under ordinary circumstances. The wound readily healed, nor had she ever after any severe neuralgic symptoms, although for some time there seemed rather more irritability about the surface of the skin than usual. In about two months after the amputation, she left the hospital, cured. I have several times seen this patient since; the last time about three years since, when she had had no return of her former distressing symptoms." 303.

As an instance of the *influence* of the trifacial nerve upon *vision*, Dr. Hall mentions a case under his own care. In it a partial *amaurosis* of the right eye has arisen, apparently from caries of the upper canine tooth of the right side; it was augmented by unsuccessful attempts at extraction; it has not ceased, however, since the extraction was effected.

Dr. Hall relates a case of paralysis of the trifacial nerve in its exterior course, reminding his readers, at the same time, of the difference between the cause of paralysis of sensation of the face in hemiplegia, or from division of the *trifacial* in a part of its course *exterior* to the cranium, and that arising from the division or disorganization of this nerve *within* the cranium. In the first two cases the eye is unaffected, in the last, this

organ gradually perishes, he supposes, from the destruction of its ganglionic or nutritive portion.

Paralysis of the Hypoglossal Nerve.—This case is quoted from Dupuytren. There were rheumatism of the neck, situated along the vertebræ and occiput; and the gradual loss of muscular power, with atrophy of one half of the tongue, the sense of taste towards the base of the tongue remaining entire. The myo-glossal nerve is supposed to have been involved in the disease at and after its exit from the cranium; hence the affection of the tongue. The scarificator and cupping-glasses were repeatedly applied behind the mastoid processes, with satisfactory results.

Paralysis of Motion from Pressure on the Anterior Roots of the Spinal Nerves.—The case has been depicted and described by Sir Charles Bell in the Philosophical Transactions, for 1840.

"Plate IX. exhibits a tumor which engaged the *anterior* roots of the several nerves as they form the *cauda equina* within the tube of the vertebræ. The tumour was of the form of an almond, but larger, and into it the *motor* roots, both of the right and left side, were gathered, whilst the *sensitive* roots were free." "The lower extremities were deprived of motion, whilst they retained sensibility, and symptoms of so much interest were noted and discussed by the physicians and pupils." 313.

Dr. Hall doubts whether *spasm* ever affects the true cerebral nerves. He says:—The substance of the brain; the olfactory nerves; the retina, the optic nerve; the auditory nerve; the glossopharyngeal, are *insensible* and *inexcitable* when wounded or pinched. Wounds of these do not induce spasmodic contraction. No experiment has hitherto been made upon any purely *cerebral* voluntary nerve, with the view of determining whether, in such a case, there would be spasmodic action. Perhaps such a nerve does not exist entirely free from the intermixture of *true spinal* filaments. Is the levator palpebræ of this character? These, with many other questions, are still left for future inquiry,—by experiment and observation.

Diseases of the True Spinal System.

Such diseases, says Dr. Hall, of the spinal marrow, as may materially affect its functions, induce, in the first place, paralysis of the cerebral nerves, sentient and voluntary, which run along its course, forming a part of its structure; and, in the second, either an excited or paralysed condition of its own peculiar functions. The symptoms combine, therefore, paralysis of sensation and voluntary motion, in parts below the disease, with spasm and ultimately paralysis, resulting from the affection of the *true spinal* marrow. Dr. Hall notices these diseases in the following order:

- I. *The Central Diseases, or Diseases of the True Spinal Marrow itself.*
- II. *The Centripetal Diseases, or Diseases excited through the Excitor Nerves.*
- III. *The Centrifugal Diseases, or Diseases of the Motor Nerves.*

Inflammation within the Spine.—Dr. Hall acknowledges the difficulty of distinguishing, by the *symptoms*, inflammation of the meninges from that

of the substance of the spinal marrow. But, in general, the symptoms of meningitis are *more* those of *irritation* of the spinal marrow, or *spasm*; those of *myelitis*, *more* those of *destruction* of the organ, or paralysis. Both kinds of symptoms may exist, however, or follow each other, in both diseases.

Dr. Hall thus proceeds to specify the symptoms as well as he can.

Amongst the first symptoms of spinal *meningitis* is local *pain* in some part of the spinal column, augmented by the movements of the patient, and by percussion, but rarely, if ever, by pressure along the spine. This pain sometimes extends along the back and limbs, in which there is then tenderness on pressure,—a symptom which may serve to distinguish meningitis from myelitis, in which there is usually loss of sensibility.

The next important symptom is spasm, or various kinds of muscular contraction. The head, the neck, or the trunk is bent backward, or there is trismus, torticollis, partial or complete opisthotonos, or contraction of the limbs, constant, or recurrent, or exacerbated, in paroxysms, on moving, on being moved, &c. with extreme pain; sometimes there are convulsions.

The respiration is sometimes difficult. There is sometimes retention of urine and constipation.

The symptoms will vary according as the meningitis exists at the base of the brain, at the upper, or at the lower, part of the spine principally.

The symptoms of spinal *myelitis* are those of paralysis of sensation and voluntary motion; a sense of numbness, an impaired sensibility, a sense of feebleness, an impaired muscular power, are first observed, singly or combined, in one or both of the inferior or superior extremities.

In some cases, probably of complication with meningitis, there is augmented sensibility. In other cases there are spasmodic or convulsive affections.

If the disease proceeds, the paralysis of sensation and voluntary motion gradually augments. Generally the paralysis affects first the inferior, and afterwards the superior extremities; far more rarely it pursues a contrary course: occasionally the motions alone, and very rarely the sensations alone, are paralysed.

If the disease occupy the *upper* parts of the spinal marrow, the respiration, and even the action of the larynx and pharynx become impaired, and we have difficulty or choking in swallowing, or asphyxia. There is sometimes the sensation of a cord-like tightness across the epigastrium. If the *lower* part of the spine be affected, the bladder, the rectum, and their sphincters, are variously paralysed, and there may be retention of urine and constipation, or involuntary evacuations, or retention and involuntary flow of urine may be combined. The condition of the bladder and the condition of the rectum should be ascertained by proper examinations, in *every case*.

In some instances there is perfect impotence, or inertia of the uterus: in others, the patient has become a father, or the uterus has been excited to expel the foetus.

Dr. Hall passes to the *Centripetal Diseases*, which originate at a distance from the spinal centres. And first of *Centripetal Epilepsy*.

This form of epilepsy takes its origin in the *excitor nerves* of the true

spinal system, involving the axis of this system, and its motor nerves, in their turn ; functionally, however, not organically. It is to be viewed as *curable*, however *difficult* of cure. By avoiding the exciting causes, its attacks are avoided ; the susceptibility to returns subsides ; these returns become less frequent and less severe and at length frequently cease altogether.

The principal causes of eccentric epilepsy are—1, the presence of indigestible food in the *stomach* ; 2, the presence of morbid matters in the *intestines* ; 3, *uterine* irritation. The first of these acts through the medium of the pneumogastric ; the second and third through that of peculiar spinal nerves,—all *excitors* belonging to the true spinal system.

Dr. Hall presents a table of the phenomena of epilepsy.

TABLE OF EPILEPSY.

I. <i>The Excitors.</i>	II. <i>The Centre.</i>	III. <i>The Motors.</i>
1. <i>The Pneumogastric in the Stomach.</i> 2. <i>The Spinal in</i> 1. <i>The Intestine.</i> 2. <i>The Uterus.</i>	<i>The Medulla Oblongata.</i>	1. <i>The Recurrent of the Pneumogastric, closing the Larynx.</i> 2. <i>The Spinal, inducing</i> 1. <i>Forcible Expirations</i> 2. <i>Convulsion.</i> 3. <i>Expulsion of the Urine, &c.</i>

The treatment of this form of epilepsy essentially consists in avoiding the causes, in moderating the paroxysms, and in subduing vascular fulness. The strictest rules must be laid down for the diet, for the state of the bowels, for conducting the catamenial periods. These last should be passed in bed ; the feet and abdomen should be fomented ; the warm-water enema, warmer than usual, and the opiate enema, should be administered.

The immediate accession of the paroxysm may sometimes be prevented by dashing cold water on the face, or by exciting the nostrils by snuff, &c. In this manner the disposition to closure of the larynx, and expiratory efforts, is exchanged for sudden acts of inspiration. Or the fauces must be irritated, or an efficient emetic be given.

The stupor, or coma, continues Dr. Hall, induced by the paroxysm, may require the administration of bloodletting, general or topical, according to its degree and deviation, and probable effects. But *tracheotomy* is the remedy against the stupor, or coma, following the attack of epilepsy, if it exist in an *extreme* degree.

"The views which I have given of centripetal epilepsy are amply confirmed by the facts, that there is no constant morbid change observable in this disease, and that many patients, after long years of its attacks, have finally and fully recovered ; facts which ought to encourage us steadily to pursue the mode of treatment."

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We must say that this quite accords with our own experience. Many cases of epilepsy are remediable, if not curable. The great thing is to avoid the exciting causes, and to determine, if it be possible, on what the epilepsy depends.

Dr. Hall thus distinguishes hysteria from epilepsy ;—vast indeed, he observes, is the distance which separates hysteria from epilepsy ; yet how *similar* are the symptoms of these two diseases. There is *one* great distinction—in hysteria, much as the larynx may be affected, it is never closed ; in epilepsy it is closed : in the former, we have *heaving, sighing, inspiration* ; in the latter, *violent, ineffectual efforts*, at *expiration* : in the former, the cerebrum, the true spinal marrow, are comparatively unaffected ; in the latter, they are in a state of congestion.

Dr. Hall naturally laughs at the idea of animal magnetism.

Spasmodic Asthma.

The following passage will shew what Dr. Hall's views are :—" The simplest form of asthma is that immediately induced by taking some indigestible substance ; or, perhaps, still more immediately induced by the inhalation of certain kinds of dust diffused in the atmosphere, as that raised by shaking a feather-bed, the powder of ipecacuanha, &c. The incident branches of the pneumogastric, or internal excito-motory nerve, are excited ; the action is reflected by the medulla oblongata upon the motor branches, and, as I believe, upon the circular muscular fibres of the bronchial tubes. These tubes are contracted, and the phenomena of asthma are induced. A constipated state of the large intestine acts in the same manner through the incident spinal nerves. Contracted bronchial tubes explain all the phenomena : the dyspnœa, the urgent, rapid, imperfect, bronchial inspiration ; the protracted wheezing bronchial expiration ; the bronchial rattles under the stethoscope, especially during expiration ; the excited secretion of mucus ; the cough ; ultimately, the dilated air-cells, the dilated heart, &c."

Tenesmus and Strangury.

" I had recently a most interesting case of spasmodic stricture of the sphincter ani. The finger could scarcely be introduced. It was discovered that a calculus existed in the urethra ; when this was removed the stricture immediately ceased." 339.

Tenesmus almost always implies the existence of strangury, and strangury that of tenesmus. They induce each other ; they are *similar excito-motory* phenomena, affecting the exits of two organs.

Spasmodic Strabismus.

" I have already noticed the strabismus which arises from *paralysis* of cerebral and voluntary nerves, and some of the muscles of the eye-ball. I now wish to draw my reader's attention to another form of strabismus, not hitherto distinguished from the former, and which I believe to be an affection of the roots of the motor nerves of the true spinal system.

In the former case, the patient can frequently move the eye-ball fully, in every direction except one ; at a certain point, the eye-ball stops, although the other eye continues to pursue an object placed and moved before it. This is the case with a patient at this moment under my care for attacks of sickness, with defective vision and motions of the eye.

In spasmodic strabismus the motions of the eye may be perfect, except on certain occasions of excitement, or of disorder, or of intense application, or of employment of the eye ; the strabismus then becomes apparent ; the eye-ball is obviously *drawn* in one particular direction.

In one interesting little girl, aged about three years, the strabismus came on whenever a stranger came into the room, whenever she was asked to read, &c." 342.

The last Chapter is dedicated to :—

Diseases of the Nervous System of Remote Origin.

They are enumerated thus,

- I. *Intestinal Irritation.*
- II. *Exhaustion from loss of blood.*
- III. *Chlorosis.*
- IV. *Arthritis.*
- V. *Excessive study, shock, alcohol, &c.*
 1. *Delirium tremens.*
 2. *Delirium traumaticum.*
- VI. *Affections of the kidney.*
 1. *Dropsy.*
 2. *Diabetes.*
 3. *Other morbid affections of the Urine.*
 4. *Ischuria.*

Intestinal Irritation.—This consists of the irritation of indigestible food, scybala, or other morbid contents of the stomach, or bowels, excited into activity by some *shock* of the system, or of the nervous system, such as a fall or other accident, parturition, &c.

The symptoms are, rigor, frequently severe heat of surface, and violent pain of the head, with intolerance of light and of sound; the symptoms, in a word, of the most acute encephalitis.

The breath is tainted, the tongue loaded and swollen, the secretions morbid. The first step to be taken in a doubtful case, is very slowly to administer an enema of from three to three and a half pints of warm water, and to examine the state of the feces, and observe the effect upon the disease and upon the system. If there be scybala, if the symptoms be subdued, and especially if there be faintishness, the case is indubitably not cerebral inflammation, but intestinal irritation.

If the case still remain doubtful, we must prepare the arm, open a vein, and then place the patient upright, and let the blood flow until the lips become pallid; if the case be encephalitis, an extreme quantity of blood will flow, even thirty or forty ounces, or more, before there is any appearance of syncope; if it be intestinal irritation, syncope occurs before one-fourth of that quantity of blood has left the circulating system!

We believe we have selected many observations of interest and value. We have been guided in our choice by a desire to present what is most novel, and most important. Repetition there must be, for that is a characteristic of Dr. Hall's works.

Of the volume itself we need say little, having *done* so much. It is a fair sample of Dr. Hall's efforts, and would stamp him, were there nothing else to do so, as a keen and vigorous thinker, and a man of originality and genius. We trust he will continue to devote his talents to the prosecution of the physiology and pathology of the nervous system.

ON THE CONSTRUCTION AND MANAGEMENT OF HOSPITALS FOR THE INSANE ; WITH A PARTICULAR NOTICE OF THE INSTITUTION AT SIEGBURG. By Dr. *Maximilian Jacobi*. Translated by *John Kitching*. With Introductory Observations, &c. by *Samuel Tuke*. Octavo, pp. 299. London, Churchill, 1841.

THIS is an elaborate work on hospitals for the insane. It is quite a handbook on the subject, and should be in the possession of every one who has the management of such institutions. It would be out of our way to go into these matters at length, and we shall limit ourselves to noticing some points of general interest.

The Introduction by Samuel Tuke is written with much judgment, and with equally good feeling. A vein of sound benevolence, equally removed from cant and coldness, runs through it, and many of the suggestions contained in it deserve the attention of the public and Legislature.

The state of pauper lunatics appears to be any thing but wholesome. A large portion are confined in private houses, where they are of course received for profit; and in which it would be unreasonable to expect, that such an expenditure in proper buildings, in the enclosure of grounds for exercise, and in the provision of a sufficient number of competent attendants, should be made, as the circumstances of the disease render of the utmost importance. If all these things were provided in the manner most calculated to promote the recovery of the patients, it would not, in Mr. Tuke's opinion, be found that eight shillings a week, which is not the lowest price at which lunatic paupers are contracted for, would, to say nothing of medical attention, cover the charges of board, bedding, and clothing, in addition to rent and wages. It must be remembered that the cost of patients, as stated in the reports of our county asylums, does not include the items of rent and interest of capital.

Where a tenderer regard has been evinced, and a public provision made for the insane poor, it is far from what would be desirable. The Legislature has empowered the magistrates in Quarter Sessions, to erect suitable houses for the cure and care of the insane poor: they are authorised in these erections to make provision for other classes than paupers, and also to unite such establishments to any existing charitable institutions for the relief of the insane. Yet there are more than twenty English counties which have made no distinct provision for their insane poor.

The surveillance of asylums is any thing but perfect. There are no regularly appointed visitors. Mr. Tuke strongly recommends such, under the authority of Government, to inspect all the places of whatever description, private or public, chartered or unchartered, in which the insane are confined; to compare the degrees of human misery in these abodes—to ascertain how it may be most effectually provided for and alleviated, and to report, annually, to the public, the results of their observations and inquiries.

Mr. Tuke refers with satisfaction to Dr. Jacobi's advice, to restrict

establishments for the insane to two hundred patients. If it be thought, he says, that the proper superintendence and medical care of this number is a sufficient charge for one individual, as the directing head, it does not appear that any argument in favour of large collections of lunatics, is to be drawn from the considerations of economy. A comparison of the cost of management in public schools of various sizes, has long led him to doubt, whether an establishment of any description, for three hundred persons or any larger number, will be managed *so* economically as one, containing from fifty to an hundred and fifty, would be likely to be. Every thing seems as if it must be done upon a magnificent scale in these large establishments, which of course swells the outlay; and from the returns made to Parliament of the average weekly cost of patients in the county asylums, it appears that Cheshire, a small establishment, is lower than Lancashire; that Norfolk is lower than Middlesex; and Suffolk than the West Riding of Yorkshire. Is it not also worthy of consideration, whether benefit would not be derived from diffusing the knowledge of the treatment of this disease more widely; which would be the consequence of establishing a larger number of hospitals for those who labour under it.

Mr. Tuke thinks that *the County Asylums should receive other besides pauper patients*. "Observation," he remarks, "in the York Asylum, in which patients of various classes in regard to property are received, convinces me that such an union of provision in one institution is in many respects advantageous. As there is no County Asylum for the North and East Riding of Yorkshire, many of the paupers in these districts are placed in this establishment; but I believe its service to the public has not been less, in having provided on moderate terms, and in a manner adapted to their condition, for the treatment of many patients of a class above paupers. The higher classes of patients who can afford to pay from twelve to twenty-one shillings per week, are of course a source of profit to the institution, and there have generally been so many in the house of this and a still higher class, as to cause the income from the patients to exceed the expenditure on their account, notwithstanding the much larger number which has been constantly admitted at less than eight shillings per week."

The highest class of society is not very likely ever to patronise County Asylums.

Medical Attendance.—The Asylums in England and Scotland, whether founded under the Act of Parliament or by voluntary charitable association, have generally a medical officer as the director of the establishment, and the medical treatment is entrusted to him, in conjunction with one or more non-resident physicians, who visit the patients twice or thrice a week. In a few establishments, the whole medical and moral management devolves upon the resident physician or surgeon. Mr. Tuke thinks that this does not work well. There ought to be the check, as well as the stimulus of a plurality of officers. If, for the purpose of obtaining more close medical attention, and a more uniform system of treatment, the plan of having outdoor officers is abandoned, there should be, at least, two resident officers who, though not equal in authority, should be united in the consideration of the plan of treatment. But Mr. Tuke rather leans to the employment

of one resident medical officer, and a non-resident physician. The arrangement at the Siegburg institution is remarkable. For the care of two hundred patients, there are three resident medical officers, two ministers of religion, two stewards who have more or less intercourse with the patients, and also three superior attendants, who rank next to the officers of the establishment, and have the immediate direction of thirty-six attendants, (of whom we shall speak hereafter,) who have the personal care of the patients and their apartments. Thus we have introduced into the asylum a very large proportion of sane, and also, it is presumed from their station, of intelligent persons, who are very frequently coming into contact with the patients and their attendants, and whose intercourse and oversight are likely in various ways to operate beneficially upon both these parties. But to make such a plan beneficial, there must be a full confidence in the use and adaptation of the means employed, and a supply of efficient, judicious, and conscientious instruments for the carrying it into effect. For our own parts we think this not a little overdone. "Too many cooks spoil the broth" in madhouses as well as better places. The consequence of so many officers being huddled together would probably be either neglect or squabbling.

Mr. Tuke observes :

"The last thirty years have certainly witnessed an extraordinary improvement, in regard to the principles on which our houses for the insane, private as well as public, are professed to be conducted. The general recognition of sound principles indicates that to a considerable extent they are brought into operation. We have still, however, I apprehend, many steps to take before it can be said that we are availing ourselves, whether through the influence which mind has upon body, or which body has upon mind, of all the means which are afforded us for the cure or alleviation of insanity. In this course we may derive many useful hints from our continental neighbours ; and we may reasonably expect that as the wants and capabilities of the insane become more correctly appreciated, and the qualities of mind required to supply them are better understood by the public at large, that the friends of patients will not be satisfied without obtaining for them those provisions which will most tend to their recovery ; and that the persisting demand will lead to the supply of a greater number of persons who, in the various departments of our asylums, are qualified for the delicate office of administering to disordered minds. This, it must be acknowledged, is our great desideratum : it is the character of the persons engaged more than the change of system, or the increase of the number of officers, which will effectually raise the condition of our asylums ; and I would observe that, if officers should be introduced into our establishments, charged more especially with the moral treatment of the patients, we ought never to let this duty devolve exclusively upon them ; *all* should have their share in it, who are charged with any portion of the care of the patients ; but in an especial manner ought the resident manager to feel this as a most important part of his duty. And in the selection of such an officer, the qualifications for moral management, amongst which I would specify,—a ready sympathy with man,—and a habit of conscientious control of the selfish feelings and the passions, ought ever to be sought as carefully as medical skill. If a moral manager and religious instructor be chosen, he should be one who knows experimentally the religion of the heart, who can condescend to the weak and the ignorant, and who, in the best sense of the phrase, can become all things to all men. I have observed, that the most successful managers of the insane have been those who were most humble and unselfish ; and it is only persons of this class who will ever effectually supply their intellectual and religious wants.

A person of an opposite description, however talented, or however conversant with the philosophy of mind, or the doctrines of religion, can never exercise efficiently this divine art of healing." xx.

Classification of Patients.—Mr. Tuke of course recommends this. Dr. Jacobi proposes the following arrangement. 1. The raving and violent patients. 2. The noisy, whatever may be the kind of their insanity. 3. The dirty unbridled patients, or those sunk in a deep state of sexual excitement, with whom the depraved idiotic and stupid may be associated, if at all admitted into the establishment. 4. Those whose propensities and habits make them hurtful companions. 5. The melancholy and suicidally inclined. 6. The quiet and decently behaved. 7. Along with the preceding class must be a subdivision for the convalescents. This is the arrangement which he proposes for the patients in general with reference to their state of mind, independently of rank or payment, which of course leads to other divisions on which it is not essential to dwell. It must be borne in mind, that this classification of the patients is to be maintained by a system of prompt change, according to the fluctuations of their mental condition.

It was proposed, in the Wakefield Asylum, to divide the patients into three principal classes. "1. Those who, according to their states of mind, their capability of self-control, and the degree in which they were likely to annoy or be agreeable to each other, are disposed to incoherent laughing and singing, and generally all those who are capable of very little rational enjoyment. 2. Those who are capable of a considerable degree of rational enjoyment. 3. The convalescents and the well behaved patients, who are most capable of common enjoyments. The first class of course was intended to include the idiotic and demented as well as those who were most subject to violent action; and for these additional means of separation were planned by the provisions of a set of apartments, with a gallery, in which the most offensive patients could be at any time separated from the others of the class to which they belonged. This may be said to constitute four divisions; and if the number of patients associating together, were properly limited, and labour were efficiently introduced, I am inclined to think that a more refined division is not needful in a pauper asylum. The melancholy were to be divided between the second and third classes, according to their state of mind; it being thought undesirable to put all the dejected patients together: and I cannot see any substantial ground for Dr. Jacobi's change of opinion, as regards the bringing of this class of patients into one miserable congregation. In regard to the third, or best class of patients, in any other than an asylum for the labouring classes, the provision of a distinct apartment, where a few of the most rational, whether strictly convalescent or not, could associate together for reading, writing, conversation, &c. would be highly desirable; but it was considered that, in the Wakefield asylum, most of the patients, who were in the best state of mind, would be engaged in labour; and a work-room was also provided, which might be said to constitute another division: and, as it was presumed, that several of this class would also be employed in assisting in the house and garden, there did not appear occasion to make further provision for their classification."

Of the Introduction of Labour into lunatic asylums Mr. Tuke speaks in high terms.

Coercive Measures.—Mr. Tuke observes that the degree in which personal restraint is required towards the patients, depends very much upon the character of the attendants. Many fits of excitement, or acts of violence, which appear to justify coercion, would be prevented by a little kind consideration and judgment. There are many ways which can hardly be specified, by which an attendant may provoke a patient; nor are the arts by which an irritable excitable mind is soothed, more easy of description. There is no doubt, that the restriction of the *power* of attendants, and the not allowing them to impose personal restraint, without the consent of the Superintendent, has a tendency to lead them to cultivate the arts of prevention; and it may now, he believes, be said to be established, that, under fair management, the number of patients subjected to any kind of mechanical restraint, either by day or night, will rarely exceed *five out of a hundred*, and sometimes no one out of this number will be found to require it.

But Mr. Tuke would appear to be far from inclined to dispense with coercion altogether. His observations on this head merit considerable attention.

"Certainly," he says, "there are cases in which the patient himself solicits it—where the reason struggles with the impetuous delusion, and finds even in a degree of restraint, which upon a man not insane would be no prevention to mischief, a help to self-control, a check upon the specific mode of action to which the malign influence impels him. Such cases are not very common, neither are they very rare. I have witnessed them, in connexion with a strong disposition to strike others, as well as with an occasional rushing impulse to a particular means of self-injury. There are also cases in which no struggle of the reason is perceived, marked by a determined disposition to violent and dangerous action, or a strong active suicidal tendency, in which I apprehend some restraint upon the free action of the body must be imposed, either by the *passive* resistance of mechanical applications, or by the active coercion of human force. It may be said, that these violent paroxysms are seldom of long continuance; but they are sometimes of sufficient duration to weary the patience, exhaust the mental and even animal resources, and excite the feelings of fear, resentment, or disgust in the mind of the attendant. If the patient is not to be restrained by a strap, are there no other vulgar appliances within the attendant's reach by which he may *overawe* the unhappy subject of his care? I fear and believe there are; and that in the struggles which cannot fail occasionally to take place, fear may be excited, sufferings may be inflicted, far more distressing than those occasioned by the right application of mechanical restraint, with this additional disadvantage, that they are less open to public notice. Nothing is more to be deprecated in the management of the insane, than protracted struggles between them and their care-takers. In our large institutions, the attendants must be left to a very great extent, to carry out the directions of the superintendent in their own way and spirit, and this, our knowledge of attendants as a class, hardly justifies us in expecting, will even *generally* be the best. This liability to abuse and perversion, even under enlightened management deserves consideration, but if the system has to be carried out by a reluctant or inefficient officer, or is left mainly to the ordinary attendants, there can hardly be a doubt of its inexpediency. The law of brute force, by which men so constantly tend to accomplish their ends, acts

through an almost infinite variety of means, and neither chains nor straps are absolutely essential to its most cruel application." xxxiv.

There are some very good remarks on the *construction of hospitals* for the insane, which we must pass over. Mr. Tuke makes some observations on the *statistics of insanity*. He reasonably doubts if much dependence can yet be placed on calculations connected with it. Now as to the *prevalence of insanity*. Setting aside many apocryphal calculations, we arrive at one which promises most accuracy.

In the year 1836, in pursuance of an address to the Crown, returns were made by the overseers of the various parishes in England and Wales, of the *pauper* lunatics and idiots within their respective districts; and from these returns it appeared that there were 13,667 of these afflicted persons chargeable to their parishes;—being a proportion of very nearly one in each thousand of the whole population of 13,897,187, as returned in 1831. Mr. Tuke apprehends that we may consider the lunatics and idiots, reported to be chargeable to their respective parishes, as being drawn from nearly, if not quite, one-half of our whole population. If this be a correct estimate, and we may consider the higher and middle classes of society as equally liable to mental disease with the lower, we arrive at the conclusion that insanity prevails in England and Wales in the proportion of at least one in every five hundred of its inhabitants.

The result of the inquiry in Norway, is a proportion of one insane person to every five hundred of the population. If, as Mr. T. apprehends is the case, the provision for the insane has been extremely deficient in that country, and if consequently the disease has not claimed that attention which more extensive provision for it would induce; there cannot be a doubt, that as the provision increases, so will the standard of sanity advance, and the number of cases which are classed under the head of insanity, be increased.

In the Rhenish provinces, under the Prussian Government, an attempt has been made to estimate the number of lunatics, and the result has been a proportion of 1 in every 1000 of the population; but Dr. Jacobi, whose establishment at Siegburg is appropriated to the use of these provinces, is of opinion that the returns are very defective, and that the proportion may be estimated at least at 1 in 600.

In France no general census has been attempted. Dr. Esquirol, in 1824, estimated the proportion of the insane to the population in France, at 1 in 1750: but he has subsequently enlarged his conjectural estimate to 1 in 1000.

In Italy, in 1833, Dr. Esquirol estimated the proportion at 1 in 3,785 of the population: but the statistics of Italy, in regard to insanity, as well as the provision for its treatment, are much more imperfect than those of France.

Mortality of Lunatics.—Mr. Tuke thinks that the *diet* of lunatics has a great deal to do with the comparative mortality of various institutions. "Our old sagacious superintendent at the Retreat, George Jepson, had not been long in his office before he came to the conclusion that the insane placed under his care required a liberal diet; and I cannot doubt, that the

acting upon this opinion has been one cause of the very small mortality in this institution, as compared with that of most others. The York Asylum, many years ago, adopted a similar course, and I know it is the opinion of my friend, Dr. Wake, the physician to the institution, that the improvement of the diet has tended materially to the reduction of the proportion of deaths. The annual average mortality, during the 44 years of the Retreat experience, has been 4.70 per cent. upon the numbers resident. At the asylum during the last 25 years the proportion has been 7.35, during the previous 37 years of its existence the proportion was 11 per cent. In the large asylum at Hanwell, the average mortality has been 11.69, that of the West Riding of Yorkshire, 16.16, and that of Lancaster, 18.01. The mortality of *the paupers* in the private asylums at and near London, is stated at 20.68 per cent. upon the numbers resident." Mr. Tuke again and again insists on the necessity for an uniform system of reporting at Hospitals for the insane. The subject, he says, would not be unworthy of a special consultation amongst the professional men who are devoted to this department of the medical art; and, if once a uniform plan of arranging the facts and experience of our establishments were laid down, there is little doubt that it would be generally adopted by them; an approximation, at least, to a fair comparison of their respective results would then be obtained; and, if tabular statements were accompanied by a fair representation of any circumstances which distinguish the several institutions, we should hardly fail in time to arrive at most important and valuable deductions.

This closes the introductory remarks of Mr. Tuke. The work itself will be found to contain a mass of information as to the architectural arrangements, and the whole economy of madhouses. We fear it would be stepping out of our province, to follow Dr. Jacobi through his carefully composed details. They will amply repay the perusal of all who are interested in the matter.

PRACTICAL OBSERVATIONS ON INJURIES OF THE HEAD. By
William Sharp, F.R.S. Senior Surgeon to the Bradford Infirmary, &c. 8vo. London: John Churchill, 1841.

MY. SHARP treats the inexhaustible subject of Injuries of the Head in the following order:

Concussion of the Brain;
Its Causes,
Its Nature,
Its Symptoms, and
The Treatment.

Compression of the Brain;
From Extravasation,

From Fracture and Depression,
From Suppuration.
The Operation of Trepanning.

Laceration of the Membranes, and
Wounds of the Brain.

CONCUSSION.

The causes and the nature of concussion first occupy him. He remarks how very slight degrees of violence will, in some instances, give rise to it. He cites two cases, one from Hippocrates, the other his own.

Case 1.—A young female, aged twenty, was playing with another female, a friend of hers, who struck her with the open hand on the forehead; she felt giddy and soon after became feverish, and complained of headache; on the seventh day, a large quantity of matter was discharged from the right ear, which gave temporary relief; the fever, however, returned, she became comatose, lost her speech, the right side of the face was contracted, she breathed with difficulty, convulsions succeeded, and death took place on the ninth day.

Case 2.—A boy, the son of a neighbour, about five years old, fell down a few steps, he was stunned for a short time, but soon seemed well, and no further notice was taken of it; several months after, he began to complain of head-ache, he became feverish, and notwithstanding the employment of very active depletive measures, squinting, dilated pupils, and excessively violent convulsions came on, the last fit of which continued three quarters of an hour, and ceased only with life. On examination, a “ramollissement” or softening of the central portions of the brain was found to have taken place to a considerable extent.

Mr. Sharp complains that the descriptions of concussion are too much mixed up with those of other lesions of the brain. He proposes that the term *concussion* or *commotion* of the brain should be restricted to cases of the first description, namely, an affection “of one or many functions, without perceptible change of structure in the cerebral fibre,” or other morbid appearance within the cranium; or in the words of Benjamin Bell, “such a derangement of the brain as obstructs its natural and usual exertions; but which does not leave such marks of its existence behind it, as to render it capable of having its real nature ascertained by dissection.”

The difficulty, we apprehend, is this, that there are so many mixed cases—cases in which the effects and symptoms of concussion are combined with those of extravasation, &c.

For the purpose of accurately discriminating the symptoms of concussion, Mr. Sharp arranges the cases into three classes.

The first class:—those cases in which alarming symptoms arise immediately on the injury being received, which either soon terminate in death, or speedily pass off altogether.

The second class:—cases of concussion in which a few days will elapse

after the accident, and then violent and dangerous symptoms suddenly come on.

The third class:—cases in which after an accident has occurred, only slight complaints are made for a long time, and which are generally disregarded, until it is discovered that inflammation has been going on and is probably ending in a fatal effusion of serum, in softening of the brain, or in suppuration.

Mr Sharp gives instances of the first class of cases, which are pretty common. The *second class* have not, perhaps, received so much attention from authors as they merit. Mr. Sharp relates a case, which we shall abridge a little.

1839, August 13th. Tuesday.—Mr. —, a very stout person, was going to — in a gig. The horse took fright and ran away; the reins broke; and Mr. — threw himself out of the gig behind; he fell upon his left arm, and left side and hip, which were bruised: his head had not touched the ground, nor had it been struck, or knocked against anything. On Mr. S's. seeing him shortly after the accident, he complained very little, and not at all of his head; and having ordered another carriage and horse, he proceeded to —, where he dined heartily. He afterwards got bled to nearly two pounds, and until he fainted. He returned home in the evening, (a distance of eight miles,) appearing scarcely at all indisposed.

He attended his counting-house on Wednesday, and, on Thursday, complained of violent pain and throbbing in the head, for the first time. He was bled again to a pound and a half; purged; and cold lotions applied to the head; he remained in bed, and took no solid food. On Friday, the pain in the head continued; with fits of dizziness and of suffocating flatulence; again bled to a pound and a half, and sixteen leeches applied to the temples, and calomel and digitalis given. Relieved by the bleeding.

On Saturday morning, he was better, but in the evening the pain had returned, with twitching of the right arm, and rolling of the head: bled to eight ounces, and again relieved. Small doses of compound tincture of camphor, and tincture of colchicum, were given during the night. He improved until Tuesday, when he was extremely giddy and almost suffocated with flatulence. Mr. S. gave him draughts with spiritus ammoniæ aromaticus, and infusion of cascarilla during the day, and applied croton oil to the nape of the neck. From this time he progressively recovered.

Speaking of the third class of cases, (too frequently, by the way, neglected, mistaken, or mismanaged) Mr. Sharp offers a few practical remarks connected with the subject of inflammation of the brain.

The first is, that if a patient, after an accident, complain of head-ache, throbbing in the head, giddiness, sickness, or any other symptom which may indicate an affection of the head, the most solicitous attention ought to be given to it by the medical attendant, and every proper measure adopted, to prevent or to remedy all inflammatory action.

The second observation is, that in inflammation of the membranes, particularly of the tunica arachnoides, the *pulse* is met with in two very opposite states; in the one it is very frequent, small, and wiry, as in inflammation of a serous membrane in the abdomen; in the other it is remarkably slow, irregular, and depressed.

The third observation is that much more *delirium*, and particularly

delirium of the violent kind, attends inflammation of the membranes, than of the substance of the brain.

"My fourth and last observation on this subject is, that when *convulsions* succeed the first stage of inflammation, the case, so far as I at present recollect, is always fatal, whether more blood be abstracted or not. These convulsions, to a careful observer, differ in appearance from those which arise from loss of blood or other cause of exhaustion. It is difficult to convey an idea of the difference in words, but I may mention one circumstance, the *eyes* are affected *first*, and more violently in the fit following inflammation, than when the cause is exhaustion." 40.

Mr. Sharp admits the difficulty of specifically stating the diagnostic symptoms of concussion and compression. He offers the following as the best account that he knows of.

In concussion the *symptoms* usually make their appearance immediately after the accident, though it not unfrequently happens that a considerable interval passes over before they come on; in compression there is generally a short interval between the accident and the symptoms.

In concussion, the symptoms if not so overpowering as soon to terminate in death, either pass away, the first signs of depression being followed by corresponding excitement, and this by complete recovery; or we may have the three stages pointed out by Mr. Abernethy, first of insensibility, second of restored animation, and third of inflammatory action. In compression, the symptoms if not relieved by active depletion, and other means, become aggravated, and death ensues either very soon, or after inflammation and frequently also suppuration have supervened.

In concussion, the *pulse* is generally not so slow, labouring, and intermittent as in compression.

In concussion, *bleeding* sinks the pulse and the patient; in compression the pulse rises and relief is afforded.

In concussion, there is commonly more *insensibility*, followed by *delirium*, than in compression.

In concussion, perhaps *vomiting* is more frequent than in compression, though it often occurs in the latter.

In concussion, there is less frequently *coma*, *convulsions*, and *paralysis*, than in compression.

The state of the *pupil* is an uncertain sign: it is often dilated and insensible to light, and often contracted in both concussion and compression.

After some judicious observations on the treatment of concussion, Mr. Sharp winds up with a few remarks on the *prognosis*. They are these.

Slight fractures are more serious than slight cases of concussion, for the obvious reason that they are an indication of greater violence having been done to the head; but on the contrary, the more severe forms of concussion are more alarming and dangerous than extensive fractures; the brain having generally suffered more injury in the former cases than in the latter.

An attentive practitioner will always remember, that slight symptoms coming on some days or weeks after the accident, bring with them a far more serious indication of mischief, than similar symptoms occurring immediately on the injury being inflicted; and also, that a patient who has suffered from concussion of the brain, in any of its forms, must not be considered

really safe, until he has, for some time, remained perfectly well, Sir A. Cooper stated in his lectures, that "no patient is safe from the effects of concussion till fourteen days after the accident," that is, I suppose, when no symptoms, or only very slight ones have arisen; but I should feel it to be my duty to watch a patient for a much longer period than this, before I could dismiss my feelings of anxiety about him.

The worst cases of concussion;—frightful fractures with depression;—laceration of the membranes and wounds of the brain itself;—and extensive extravasation in the substance or at the base of the brain, will probably, in all ages, baffle the most skilful treatment. But a good acquaintance with surgery in its present state, with sufficient judgment, attention, and activity, will generally enable us to preserve life after accidents which fall short of these severe extremes.

COMPRESSION.

The consideration of the symptoms offers nothing to detain us. We shall only pause to notice a case. It is brought forward as an instance of what occasionally happens—the lapse of an interval of some duration between the infliction of an injury and the appearance of symptoms of compression.

Case.—"Richard Garside, a stout healthy man, while driving his cart late at night, was attacked by two highwaymen, who kicked him severely on the head and face. He had a fracture of the upper jaw, several bruises on the head, and a wound over the left parietal bone, the bone itself being also slightly fissured. I saw him in the morning in consultation with two other medical men; he complained of nothing but the bruises about his face. The wounds were dressed, and in addition, he was freely bled. The next day he was so well that my proposal to repeat the bleeding was over-ruled. On the third day he complained of pain in the head, and was feverish; he was then bled; and again on the fourth day. On the sixth day he was decidedly suffering from compression, and the trephine was applied on the injured part of the parietal bone:—a coagulum of blood was found, but it was under the dura mater. He died on the eighth day." 80.

Compression of the Brain from Depressed Bone forms a separate section. Most of the remarks are characterised by good sense, rather than by novelty, indeed it would be difficult to attain and unreasonable to expect such.

We may mention that in cases of fracture with depression and symptoms of compression, with wound or without it, Mr. Sharp strongly recommends the *repeated abstraction of blood, in moderate quantities, at short intervals*, in order, if possible, to prevent inflammation; in preference to waiting until that mischief has actually commenced.

"The next most important question which presents itself, in these cases, is the necessity of trepanning, or at least for some operation to elevate the depressed bone. The experience I have had, leads me to advise that the depressed bone be elevated, whenever it is in a situation to be got at, even though it be necessary to make a wound to do so, *if serious symptoms of compression are actually present*. The conversion of a simple fracture into a compound one, and the removal of any portion of the cranium, are serious proceedings; and the necessity must be apparent which will justify their adoption;—that necessity

appears to me to be the symptoms of compression being present. If, indeed, *these are not urgent*, blood-letting, the application of cold, &c. should be first tried: and sometimes they will subside, and the patient will recover, without further interference. But should this not be the case, should the symptoms be urgent, or though less alarming, continue after venesection, then the surgeon is called upon to attempt something more to rescue his patient from otherwise inevitable death." 105.

Suppuration within the Cranium is described, of course. We quote the following, a far from unique case.

Case.—1838. Some time this year, a soldier in the army in Spain, received a sabre wound, on the left side of the head, above the ear, which healed. In July, 1839, he was admitted into the Bradford Infirmary, for a copious purulent discharge from the left ear; a large abscess had also formed behind the ear, which was opened. He became delirious, or rather insane; and was so evidently suffering from compression of the brain, that an attempt was made to relieve him by applying the trephine above the ear. The bone was dead, and the dura mater detached from it, but no matter was found underneath it, though the dura mater was punctured with a couching needle. The man was, however, materially relieved for several days; he afterwards became worse and died. On examination a very large quantity, between three and four ounces, of matter was found in the brain, and a perforation through the petrous portion of the temporal bone, into the meatus externus; the matter had passed through this opening, and escaped from the ear. The opening made by the trephine, was just on the verge of the abscess, but did not open it.

Mr. Sharp presents a concise yet a complete account of the history of trephining. The see-saw of opinions on the subject is remarkable, and not altogether uninteresting. His summary of the points at present agreed on and disputed lays the whole case before the reader. It is agreed on:—

Not to trepan in cases of concussion;

Nor in cases of compression of the brain, unless there is very good reason to expect extravasated blood immediately under the bone; fracture of the internal table; or pus, indicated by the puffy tumour, or detached pericranium.

Nor in children where there is depression only, without fracture.

Nor in simple fissures or fractures with slight depression, but without alarming symptoms;

Nor even in compound fractures without depression or symptoms;

And on the other hand:—

To perforate the cranium when extravasated blood or matter may be fairly expected to be found underneath; and to raise the depressed bone, in all cases of depression, whether simple or compound, where there are serious symptoms of pressure.

But it still remains an unsettled point whether,

A simple fracture with extensive or deep depression, but without symptoms of pressure, and,

A compound fracture with depression, but also without symptoms, should be trepanned or not.

For such a proceeding we have Sir A. Cooper, and Sir B. Brodie : *against* it, Dupuytren and Lawrence ;—and the arguments used on each side of the question, by these distinguished and experienced men, are of great weight.

"I do not flatter myself," adds Mr. Sharp, "that I can decide the question, as to the general rule ; though I have not lately had any difficulty in making up my mind, in any individual case. I will only observe, that my decided preference has gradually become, more and more, *for non-interference* ; that *by strict attention to the means for preventing inflammation*, I have great confidence in such cases doing well, with the fracture left undisturbed : and that, therefore, unless I found that the depressed bone could be very easily raised, or the detached fragment removed without increasing the damage done to the dura mater, *I should not venture to do it.*" 139.

WOUNDS OF THE BRAIN.

Mr. Sharp's practice differs from that of the majority of surgeons of the present day. After remarking that Sir B. Brodie in his admirable paper in the Medico-Chirurgical Transactions, has analysed a collection of thirty-eight cases, from various authors, in order to show that "in the very great majority of cases of wounded brain, there seems to be more wisdom in resorting to negative, than to active local treatment." In several of these cases, foreign bodies, or splinters of bone, were allowed to remain, without being extracted, and the patients recovered.—Mr. Sharp adds,

"In the cases which have fallen under my care, I have hitherto pursued a different course, and the majority of them have recovered ; I regret that I have not accurate notes of them all, so that I might be able to say precisely in what proportion.

The question of removing fragments of bone or of foreign bodies can only be entertained, when those fragments are so loose as to be extracted without doing further injury to the brain ; the result of my own practice is in favour of their being removed ; while the result of my reading is, on the contrary, in favour of their being left. There can be no doubt of the propriety of leaving, unmolested, all cases where the depressed bone, or the foreign body, a bullet for example, is so circumstanced that, to extract it, the brain must suffer still further laceration.

It will perhaps appear, *prima facie*, that I have pursued an opposite course of practice in these cases to that recommended in the preceding chapter ; but when it is considered how different the cases are ;—that in the former, the brain is only *pressed upon*, and that without its giving evidence of suffering ; while in the latter it has a sharp jagged edge of bone continuously *puncturing* it ;—it will not then appear surprising if a different mode of treatment be thought necessary." 154.

Mr. Sharp gives a caution in reference to these, and all other fractures of the skull, where the patient recovers with loss of some portion of the bony covering of the brain. It is highly necessary *that the patient should be provided with a metallic covering for the part which has lost its bony protection*, before the surgeon takes leave of him, and before he is allowed to go much out of doors, or to engage in any active occupation or amusement. The necessity for this precaution is illustrated by a case.

Case.—1828. "A boy about eight years old, received a severe blow on the left parietal bone by the fall of a coal, while employed at the bottom of a pit.

I found a large wound, a comminuted fracture of the bone, and a laceration of the dura mater; he was in a state of extreme exhaustion, and in fact, it seemed a hopeless case. I removed the splintered bone, and lightly dressed the wound, and to my great surprise and delight, the boy recovered. He got out of doors, before I was aware of it, and, boy-like, engaged in full play, with some of his companions; he was struck by a stone, on the very spot where the bone had been removed, and he died in a few days.

I mention this painful circumstance, believing that it will produce as strong an impression on the minds of other surgeons, as it has upon my own; and in the hope that we may be able so to put our patients on their guard, that a similar catastrophe may, in future, be prevented. A small plate of tin, or other metal, may be made to fit over the part without difficulty. I am at present attending a case of this kind, in which, in consequence of a blow from a stone, received nearly three years ago, several large portions of the parietal and temporal bones have exfoliated, and have been extracted, by which the dura mater is exposed to a great extent; it is now protected by a large metallic plate which is constantly worn." 156.

In Mr. Sharp's cases of wounded brain, the splintered and depressed bones have been carefully removed, in the manner previously described; the integuments replaced as much as possible; the circulation repressed by the repeated abstraction of blood; inflammation checked by every possible means; and by patient and persevering attention for some weeks, a cure has been effected.

We believe we have noticed all the more prominent parts of the work. Mr. Sharp apologises for not only its execution but its production. Mr. Sharp, however, has enjoyed many opportunities for observation, and does right to record his experience. Every man's is valuable when honestly reported, and it would be well if more of our medical books were of this unpretending character.

A LETTER TO SIR B. BRODIE, BART. ON THE APPLICATION OF THE COLLEGIATE SYSTEM TO THE MEDICAL SCHOOLS OF THE METROPOLIS. By the *Rev. J. H. North*, M.A. Chaplain to St. George's Hospital.

THIS Letter does honor to the head and heart of its writer, and is worthy of the gentleman to whom it is addressed. There breathes not a man more desirous to ameliorate the condition of medical students, nor more anxious to raise the character of the profession than Sir Benjamin Brodie. His liberality is not confined to words or opinions, but expands into acts of the most generous character. The Pamphlet before us is rightly dedicated to him.

Mr. North displays, in a most effective manner, the comfortless condition of a large proportion of our students. What can be more true than this?

"There is no officer connected with the hospital at which the pupil is entered, whose province it is to guide him in the selection of his apartments; there are no limits within which his choice is confined; there is no warrant for the respectability of the persons at whose house he may take up his abode; there is no provision made for the regularity of his meals, nor for any of those arrangements upon which his comfort depends. He has to settle and arrange for himself all those

household affairs, which present no slight difficulty to those who are far older and more experienced than himself. He is alone; and solitude in London is of all things the most desolate. In these circumstances he applies for guidance to those who, not unfrequently, are least able to render him effectual aid; he is at least as likely to fall into bad hands as into good; it may be, a notice stuck up in the hall of the hospital catches his eye, and he takes refuge from his perplexity in the first lodging-house that presents itself; and in this situation, unfriendly to his moral character, unfavourable to study, not admitting any superintendence, and destitute of all domestic comfort, he passes the first months, perhaps, which in the whole of his life have not been spent in the society of his family or friends."

Contrast the neophyte in medicine with the Freshman at College. *There* every arrangement has a direct reference to his advantage. Mr. North proposes to assimilate, as far as possible, the material condition of the medical student and the resident at an University—to provide apartments within the walls of the school—to license lodging-houses for those who prefer them—to establish a common hall and common dinner—and to exercise, as far as possible, a gentle surveillance on the morale as well as the physique of students.

The *enforcement* of regularity, and the adequate adjustment of restraint, are hinted at by contrast.

"I will again recur to the situation of under-graduates in support of this part of my argument. To speak briefly, the means insisted upon to secure regularity of conduct are these: daily attendance at chapel, again at lectures, a third time at hall; and lastly, the system of gates, by which a return of every under-graduate who is out after ten o'clock at night is daily made to the tutor or dean. The punishments for offences against these laws consist of impositions and deprivation of liberty for periods varying in length, and eventually loss of terms and consequent postponement of the degree. I am not aware, that the discipline of our universities has ever been considered too severe; nor do the tutors and deans find that they have too much power for the purpose of maintaining due attention to the necessary points of correct behaviour. Yet of all these restraints—these wholesome and necessary restraints—the life of a medical student is wholly devoid. There is, indeed, some attendance required on lectures, some in the wards of the hospital; but, with this exception, the pupil is entirely his own master; that is, in all matters relating to his hours, his expenses, his companions, his religious and moral habits, he is utterly without a check; and in all the heat and inexperience of youth, he finds all London before him for the uncontrolled gratification of his favourite desires, whatever they may chance to be."

That something *should* be done is manifest—that something *will* be done is not unlikely—and that the *sooner* it is done the better for the profession and the public is, we conceive, undeniable. There will be difficulties, no doubt, in the way. What great and comprehensive scheme of good is free from them? Capital is to be obtained, license to be bartered for restraint, repugnance to Collegiate discipline to be conquered without the aid of prescriptive Collegiate dignity and power—a new machinery to be organised and put in motion. All difficulties, we say, but none insuperable—difficulties that will appear great or trivial as we regard them with the eye of a mere speculator, or of one zealous for men's improvement. For our own part, we believe that those who have originated this excellent plan, and those who will carry it out, deserve the best thanks of the profession, and the good name that crowns benevolent purposes and deeds.

- I.—MORAL PHILOSOPHY; OR THE DUTIES OF MAN CONSIDERED IN HIS INDIVIDUAL, DOMESTIC, AND SOCIAL RELATIONS. By *George Combe*. 8vo. Edinburgh and London, 1840, p. xvi. 440.
- II.—NOTES ON THE UNITED STATES OF NORTH AMERICA, DURING A PHRENOLOGICAL VISIT, IN 1838-9-40. By *George Combe*. Three volumes, 8vo. Edinburgh and London, 1841, p. xxiv., 1260. With a Map and Illustrative Diagrams.

[Continued from No. lxix., p. 80.]

II. THE NOTES ON THE AMERICANS.

THESE Notes are exceedingly multifarious; and, in that they are distinguished by much faithfulness of observation as well as an exemplary impartiality of judgment, they cannot fail of proving unusually attractive to many persons, although induced to examine the author's views with very different dispositions and purposes. Here, in Mr. Combe's entertaining and instructive pages, the agriculturist and commercialist, the legislator and moralist, the philosopher and artisan, the civilian and religionist, the physiologist and physician, the phrenologist and philanthropist, will all find abundance and diversity of congenial topics whereon to exercise their practical and contemplative powers. We prefer the subsequent gleanings, as not unsuited to the pages of this journal: let us begin, then, with "Notes" on Insanity, Lunatic Asylums, and Medical Jurisprudence.

Having read, in the *American Jurist*, No. xxxviii, a very able review of Dr. Ray's *Treatise on the Medical Jurisprudence of Insanity*,* Mr. Combe there found it recommended to public attention, on account of the talent which it displays, also because it treats of insanity, on phrenological principles, and because it embodies the views of the most recent French, British, and American authorities on this exceedingly important subject. He afterwards consulted the work itself; and, as he has rightly judged, it contains much excellent matter. In an able essay prefixed to the volume, he says, the contradictions, errors, and inhumanity of the doctrines on insanity delivered by the lawyers of England, up to a very recent date, are clearly stated and completely exposed. Nor does Scotland with her groupes of sages in the moral and metaphysical sciences; escape Dr. Ray's enlightened and searching scrutiny. He observes at p. 50, the doctrine of *moral* insanity has been as yet unfavourably received by judicial authorities, not certainly for want of sufficient facts to support it, but probably from that common tendency of the mind to resist innovations upon old and generally received views. Since, a quarter of a century ago, one of the highest law-officers in Britain pronounced the manifestation of "*systematic correctness*" of an action a proof of sanity sufficient to render all other evidence unnecessary, it is not surprising that the idea of *moral* insanity has been considered by the legal

* An Analytical Account of Dr. Ray's *Treatise* was presented to our readers, in the No. of this Journal for April, 1839, p. 431-443.

profession as a fancy sprung from the teeming brains of medical theorists. Thus, in the fulness of this spirit, Mr. Chitty declares that, "unless a jury should be satisfied that the *mental faculties* have been *perverted*, or at least the faculties of *reason and judgment*, it is believed that the party subject to such a *moral insanity*, as it is termed, would not be protected from criminal punishment;"* and, Dr. R. continues, in the trial of Howison for the murder of the widow Geddes in Scotland, *moral insanity*, which was pleaded in his defence, was declared by the court to be a groundless theory. Such opinions, from quarters where a modest teachableness would have been more becoming than an arrogant contempt for the results of other men's inquiries and experience, involuntarily suggest to the mind a comparison of their authors with the saintly persecutors of Galileo, when they resolved, by solemn statutes, that Nature always had operated, and always should operate, in accordance with their views of propriety and truth. Many, very many facts might be adduced to corroborate these incontrovertible observations of Dr. Ray's, and to evince the excessive dullness and dogmatism generally displayed in the jurisprudential proceedings regarding insanity, throughout this country. In fact, there is no consistent or intelligible definition of insanity in the forensic rules and authorities of Britain; and, therefore, in consequence of this legal anarchy, the judgment of cases is too often a judgment of despotism, a mere opinion emanating from a mind bewildered by prejudice and enchained with the fetters of ignorance and bigotry.

Adverting to the indecent haste with which the trial, sentence, and execution of Bellingham, for shooting Mr. Percival, were hurried over, Dr. Ray remarks, that few will now read the report of this trial without being forced to the conclusion, that Bellingham—was really mad; or, at the least, as Mr. C. adds, that the case should have been deliberately investigated. Again, with reference to Howison's case, the doctor adds, that application was made to the secretary of state, by the law-agent of the accused, for time to obtain further evidence of his insanity, but without success, although several post-judicial facts were added, and left no doubt that the unhappy convict was not a fit subject for mortal punishment. From actual knowledge, Mr. C. confirms these statements, and produces the additional information—that, in the night preceding Howison's execution, he made a confession of a number of murders which he avowed himself to have committed, and of which he specified the times, places, and circumstances, evidently believing them to be real; but which, on inquiry, one and all of them turned out to be mere phantoms of his own diseased brain. In this wretched man, the innate propensity to destructiveness appears to have been liable to accessions of inordinate excitement giving rise to destructive monomania; and, while labouring under one of these paroxysms, which

* Chitty, Medical Jurisprudence, p. 352. As Mr. C. prefers the superannuated terminology of the metaphysicians who convert reason and judgment into mental faculties, he might have recollected that these oracular sages also represent the "*Moral Sense*," as being a mental faculty; and, consequently, he could scarcely have failed to see, if he could not acknowledge, that perversion of this prominent faculty should be held for a *moral insanity*.—Rev.

misled his own judgment and memory, and prompted him to clothe its suggestions with the attributes of reality, he was led forth to the gallows and executed. We agree entirely with Mr. Combe in the opinion that, from the evidence adduced at the trial and subsequently obtained, this man Howison undoubtedly committed the homicide during a monomaniacal state of mind, without provocation, and without any motive discernible by a sane understanding.—When will our prominent patriots cease from expending their energies in toiling for the attainment of superficial reforms ! Let them rather cultivate the principles and their applications requisite for maturing education and legislation ; and, on these being perfected by a just and consummate reformation, that of all other institutions will necessarily follow : and, from that day forth, we shall no longer be harassed with the horrors of contemplating the destruction of maniacs, executed as criminals.

At p. 196 of Mr. Combe's first volume, we meet with " Notes " from a valuable official report on insanity and criminal jurisprudence. Chief-Justice Parker delivered a charge to the grand jury for Merrimack county, in 1838, on the subject of insanity ; and, in this charge, which was published by request, the phrenological views of this malady were embodied. From this report, we learn that, by returns to the legislature of New Hampshire, in 1833, there were 193 cases of insanity in eighty-three towns ; while, from one hundred and twenty-seven towns, no report was received. Hence, at a similar ratio for all the towns in the state, the number would be about 500 cases : of those *returned*, 98 were paupers and 95 not so : neither the local nor general population is recorded. From the returns, it is shown that about a half was, or had been, in confinement : some were in cages and cells, some in irons and chains, and some in jails.

Further, we observe in the report of a Committee, in 1836, that one hundred and sixty-one towns had furnished returns ; that, in one hundred and forty-one of these towns, there were 312 cases of insanity ; and that, in the remaining twenty, no case was specified. According to the same document, the period in which insanity existed, was from two weeks to sixty years, and gave an average of $13\frac{1}{2}$ years' duration. Taking the ratio of the population (*which is not stated*) of the towns that made returns, as compared with the population of the state, the result would show that they included nearly 450 insane persons ; but, says the report, there are obvious reasons why this should be below the actual number. By inquiries recently instituted, we discover the fact—that, in the county of Chester, U.S., for every thousand of the inhabitants about two are insane. Mr. Parker next proceeds to distinguish the various circumstances in which the question of insanity may come before courts of law and juries : such as, claims for the support of lunatics—applications for the appointment of guardians to lunatics—controversies about wills executed by persons alleged to have been insane—disputes about contracts said to have been undertaken by the insane—and discussions concerning the guilt or innocence of persons represented as labouring under insanity at the time of committing an offence. He then gives a description of the disease, in which he recognizes not only *intellectual* insanity, but also morbid affections of the *feelings*. He expressly says that " the *propensities* and *sentiments*

ments may become deranged ;" and, among other forms of their diseases, he includes an "irresistible propensity to steal," an "inordinate propensity to lying," a "morbid propensity to incendiarism," and a "morbid propensity to kill." He illustrates his divisions of insanity by quotations from the reports of Dr. Woodward, superintendent of the Worcester (U.S.) Lunatic Hospital, who is an avowed phrenologist, and from Dr. Ray's work on medical jurisprudence. It is gratifying, as Mr. Combe remarks, to see the principles of phrenological science thus brought lucidly and practically to bear on the interests of a state, under the direction of one of its highest authorities.

The reader would observe our allusion to the Worcester Lunatic Hospital and its superintendent : we will here introduce some account of them. Mr. Combe's picture of the one, and his portrait of the other, is exceedingly graphic. This monument of charity erected by the State of Massachusetts, at an expense of eighty-five thousand dollars, is situated on a beautiful eminence eastward of the town. The buildings of the west front, erected in 1831, consist of a centre, 76 feet long, 40 wide, and four stories high, projecting 22 feet forward of the wings. These extend to the north and south 90 feet each on the front, and 100 feet in the rear, and are 36 feet wide, and three stories high. This arrangement was adopted to secure free communication with the central structure, occupied by the superintendent, steward, attendants, and domestics, and to permit the ventilation and lighting of the long halls, or corridors, extending through the wings. The apartments for the insane, 8 feet by 10, have each a window, with the upper sash of cast-iron and lower of wood, both glazed ; on the exterior of the wooden sash is a false sash of iron, corresponding to it in its appearance and dimensions, but firmly set into the frame of the window, giving the reality of a grating without its gloomy aspect. In 1835, a building 134 feet in length, and 34 feet in width, was attached to the southern extremity of the hospital, of equal height, and extending eastward at right angles with the front ; in 1836, another edifice of the same magnitude was erected at the north end. Three sides of a great square are now inclosed by these extensive structures of brick.

This hospital was opened in January, 1833 ; from the first it has been admirably managed and the system of moral and medical treatment attended with great success. The structure itself combines the improvements which have recently been introduced into hospitals for the insane. It commands a cheerful and even beautiful prospect, from every window occupied by the patients. The ventilation and heating of the rooms are accomplished by warm air introduced into the galleries, and from them into each cell, by means of an oblong opening above the door. The pipes conveying hot air open near the ceilings of the galleries, and some advantages attend this arrangement. If the pipe opens at the floor, the stream of warm air does not diffuse itself over the apartment, as is generally supposed, but ascends in a direct column to the ceiling and is only there broken and dispersed. It descends only after it has filled the upper spaces of the galleries. By introducing it at once at the top, these spaces are filled before much of the heat has been lost, and a warmer air descends, and enters the several rooms by the apertures above the doors. In the wall of each room is an opening about five inches square, into an air-

chimney, calculated to maintain a constant circulation. These air-chimneys open into a vast garret, directly under the roof of the building, which contains numerous windows for letting off the noxious air into the atmosphere. This arrangement is attended by one considerable advantage. When the air-chimneys open directly into the external atmosphere, their action is violently affected by the state of the wind; and, in cold weather, they bring down cold instead of carrying up heated and exhausted air. When they open into the garret, they are altogether protected from the wind; and by opening fewer or a greater number of the garret windows in Winter, effectual security is obtained against the descent of cold air. These chimneys are effectual; and, in the morning, the rooms are pure to the senses, while the garret furnishes abundant evidence that it has received the effluvia of the night. At the end of the galleries, there are two large corner apartments, two sides of which are composed entirely of cast-iron sashes, one for the women with the interstices glazed; the other for the men without glass. The object of these is to afford air and exercise to the patients in severe weather when they cannot go abroad, or when their state of health renders complete exposure inexpedient. There is abundance of ground attached to the hospital, in which the patients labour, and there is a chapel in which divine worship is performed every Sunday. A neat carriage, drawn by two horses, belongs to the establishment, and is constantly employed in carrying the patients little excursions into the country to amuse them. The purity and order of the apartments are complete.

We wish to make our readers acquainted with Dr. Woodward, the superintendent of this Hospital, by presenting them with Mr. Combe's portraiture of this justly distinguished physician. Physically and mentally, says our experienced limner, Dr. W. is admirably adapted for his situation. He is in the prime of life, and has large limbs, a large abdomen, large lungs, and a large head. His temperature is sanguine nervous-bilious, with a little of the lymphatic. The organs of the propensities are well developed, but those of the moral sentiments and intellect decidedly predominate. This combination produces a powerful and commanding person, characterized at once by vivacity, energy and softness; and a mind in which intellectual power is chastened by the most kind and cheerful moral dispositions. Mr. C. regards these qualities as of great importance in the superintendent of a lunatic asylum. If that well-spring of spontaneous vivacity which accompanies large lungs and a large brain be wanting, the individual will be more apt to sink under the depressing influence which the diseased minds of his patients will exert over his own, than to excite their faculties to more healthy and agreeable action. If he be deficient in the moral organs of the brain, he will want sympathy, softness of expression, and justness of feeling; while if he be deficient in the reflecting intellectual organs, he will want sagacity to trace effects to their causes, and to discriminate character; or, if the deficiency be in the observing organs, he will lack the power of attention to incidents and details.

Dr. Woodward has published a valuable pamphlet, strongly urging the advantage of instituting "asylums for inebriates." His reasoning may be briefly stated thus: "1. Intemperance is a physical disease. 2. It is curable in the great majority of cases, if not always. 3. The greatest

existing difficulty in effecting this end, commonly arises from the extent of the temptation to which the patient is uniformly exposed. 4. The best remedy for this state of things is to confine the individual, with a view to the avoidance of this temptation, and to the adoption of whatever other measures are necessary for this cure—till he is cured—under charge of an institution expressly adapted to the purpose." The subject has attracted considerable attention in the United States; and, as Dr. Woodward's views are unquestionably sound, both physiologically and morally, it is to be hoped that his suggestions may be extensively carried into effect.

Our traveller had the good-fortune to accompany Mr. Salisbury, a state inspector, in his official visitation of the hospital at Worcester: and here, while transcribing his "Notes," we would direct attention to his remarks on the house and its internal economy. Being invited to accompany the inspector, Mr. C. entered every cell and apartment; he saw every patient in the institution; and, in his deliberately recorded opinion, nothing could exceed the excellent condition in which it appeared. Only five furious and filthy patients were found among the whole, and they are lodged in a separate building, so distant that their noise cannot annoy the general inmates of the hospital. Each of these persons was in a distinct cell, the walls of which are of brick, and the floors of mica-slate pavement, heated by fire applied below. The light is admitted from the passage. In one of the cells was a musician, who tears everything to pieces, and is excessively dirty. He was seated on the warm stone-floor, clothed in a very strong and thick cotton vestment, which descended to his ankles. His organs of time and tune remained sound amidst the wreck of nearly all his other faculties. While thus seated, he played several tunes on the flute, with correctness and expression. His head is well formed, with the exception of a predominating destructiveness. His temperament is nervous-sanguine, and the organs of imitation and ideality, as well as those of time and tune, are largely developed. Dr. W. gave the patients of the hospital a ball on Christmas Eve. They themselves decorated very tastefully one of the corridors, with boughs of evergreens, and converted it into a handsome ball-room. They looked forward to the entertainment with great interest for many days before Christmas, and it still afforded them a pleasing theme of conversation. It proved very successful, and even this musician performed a part in it. Dr. W. is an enlightened phrenologist, and he assured Mr. C. that his conviction increases, the more he observes, that the cases are extremely rare in which the whole of the mental organs are involved in disease; and that this conviction led him to try the experiment whether this individual could not be enabled to command himself at the ball. He explained to him the preparations that had been made; asked him if he would like to attend. This wakened up a thousand impressions, received in his best days of health and usefulness, and he professed his desire to assist and to play in his professional capacity. Dr. W. adverted to his dress, and said that he must appear in the costume of a gentleman, and must conduct himself with decorum, as the only conditions on which he could be admitted. He engaged to comply with both stipulations. When all things were prepared on the evening of the ball, the keepers entered his cell, dressed him in a decent suit of clothes, and led him to his seat among the musicians, and instantly the band struck up,

and the dancing commenced. He played in perfect tune and time. One of the keepers was stationed behind him all the evening to prevent accidents, in case of his losing command of himself; but there was no need for his interfering. For three hours, he continued to play and conduct himself with perfect propriety. At the end of two hours, he complained of fatigue, and said that he believed that formerly he used, about this time, to receive a glass of wine. A glass of wine was given to him, he drank it, and played on, till the close of the entertainment. He was then re-conducted to his cell, and had hardly entered it, when he recommenced tearing his clothes.

Dr. Conolly, in his instructive Report on the Hanwell Lunatic Asylum for MDCCLX., observes—that “the principles of changing all the circumstances surrounding a lunatic, is evidently one capable of application in certain cases, and in certain periods of the malady, with singularly felicitous effects.” We have always regarded this as a fundamental principle in the management of insanity, and we could instance, within the range of our own observation, the fatal results which have been occasioned by ignorance or wilful defiance of this most essential principle. In the deeply affecting and deceptive forms of transitory monomania which is so prone to arise in delicate and excitable females during pregnancy or convalescence after child-birth, no resource can be more preposterous and pernicious than that of secluding the patient in the bosom of her family, surrounded by rueful relatives, and attended by woe-begone familiars. Such a resource is known to have been adopted; and, from experience, it is also known to be most effectual in depriving the patient of every chance of recovery. In Dr. Woodward’s destructive musician, although a confirmed lunatic, we have a remarkable example showing how powerfully a total change of circumstances may affect an insane person even in the most hopeless condition. In this case, the effect was temporary, but it was great while it lasted.

Dr. Woodward informed his visitants that he allows about one-fourth of the inmates of the asylum to go into the village on specific errands unattended, and only one man has escaped; and he did so after being enticed by some acquaintance to drink. Social parties, with music and dancing, are given from time to time, which, with religious worship on Sundays, have an excellent effect on the minds of the patients. The music is supplied entirely by the patients themselves. Mr. C. saw in the hospital a woman, who, in a fit of religious and destructive mania, had attempted to cut off the heads of two of her children. Philoprogenitiveness was deficient, and destructiveness enormously large. A man who is insane in regard to wealth, imagining himself to possess incalculable riches, has the organs of acquisitiveness standing forth in such ample size and well-defined forms, that they attract the eye in looking at him in passing. Ideality is also large, and in his imagination he applies his wealth to gorgeous purposes. There were other striking examples of the concomitance between the peculiar features of monomania and the size of particular organs in the brain; and Dr. W. expressed his surprise how any man, living in charge of an hospital for the insane, and capable of mental analysis and physical observation, reasonably acquainted with phrenology, could avoid conviction of its truth. He also mentioned that he receives many shoe-

makers as patients. This class is numerous in New England: but he believes that insanity is produced beyond an average extent among them by their breathing vitiated air in their hot, small workshops, without ventilation, and by their unfavourable position when working. Many sailors are admitted into the institution as patients, and their insanity is held to be produced by intemperance and severe hardships at sea. The cures in cases of less duration than twelve months, amount to 85 per cent. on an average of six years.

We are furnished by Mr. Combe with a copious account of the "Eastern Penitentiary" in Pennsylvania, and of the effects of solitary confinement on the health and morals of criminals. This Penitentiary is a state-prison, situated on high ground north-west of Philadelphia, and built in the gothic style. It covers about ten acres of ground, and the ranges of cells radiate from a central tower to the high walls which surround the whole. It owes its origin to "the Philadelphia Society for alleviating the miseries of public prisons," who, from 1801 to 1821, addressed several petitions and memorials to the Legislature, praying for the more effectual employment and separation of prisoners, and for proving the efficacy of solitude on the morals of those unhappy objects. When a prisoner arrives at the Penitentiary, he is examined by the warden, and is then taken to the preparing room. Here he is divested of his usual garments, his hair is closely trimmed, and he undergoes the process of ablution. He is then clothed in the uniform of the prison, a hood or cap is drawn over his face, and he is conducted to his cell. The bandage is removed from his eyes, and he is interrogated as to his former life, which, as a matter of course, is seldom accurately related. The consequences of his crime, the object in view in his punishment, and the rules of the prison, are next explained to him. He is then locked up in solitude without employment. After enduring this state of existence for some days, and feeling its discomfort, he supplicates for the means of employment; which are granted to him, not as a punishment, but as a favour. He is also furnished with a Bible, some religious tracts, and occasionally other works calculated to imbue his mind with moral and religious impressions. In every cell there is a pipe supplying pure water, a kind of water-closet, a bed, a chair, and the implements of the convict's labour. The apartment is heated in Winter by pipes filled with hot water, and there is an aperture for ventilation, which is at the command of the convict. Every convict is obliged to keep his cell perfectly clean, and great attention is paid to the cleanliness of his clothing and person. The men receive a towel, a razor, and shaving apparatus. The clothing is comfortable, and adapted to the season. Their food consists, for breakfast, of one pint of coffee or cocoa, made from the cocoa-nut, or mush. Dinner, three-quarters of a pound of boiled beef without bone, or half a pound of pork, one pint of soup, and an ample supply of potatoes. Occasionally boiled rice instead of potatoes. Supper, mush (made of the flour of Indian-corn boiled) *ad libitum*, one half-gallon of molasses per month, salt whenever asked for, and vinegar as a favour occasionally. Turnips and cabbage in the form of crout are sometimes distributed. The daily allowance of bread is one pound, made of wheat or rye.

For the sake of comparison, Mr. Combe here introduces, in a foot-note,

the allowance of food in the Glasgow Bridewell, which he commends as one of the best-managed prisons in Scotland. This bill of fare is copied from the fifth report of the inspectors of prisons, and we give it as follows : Breakfast, eight ounces of oatmeal made into porridge, with a pint of butter-milk. Dinner, two pints of broth (soup), containing four ounces of barley, and one ounce of bone, with vegetables ; also, eight ounces of bread. Supper, five ounces of oatmeal, made into porridge, with half a pint of butter-milk. Cost of the whole, 3½d, including cooking. Our readers connected with the poor-law-unions and union workhouses will be able to appreciate the difference between this "allowance," and that usually doled out to paupers unaccused of criminality.

Returning to Mr. C.'s account of the Penitentiary, we find that each convict, on his reception, receives a number in the books, which is marked over his cell-door, and on his clothes. This is his prison-name, and his proper name is kept concealed. This rule prevents one convict from learning the name of another. The convicts on the ground-floor are allowed to walk one hour a day, in a very small yard which is attached to each cell, and the hours are arranged so that no two contiguous yards are occupied at the same time. The cells on the upper floor do not admit of this exercise being enjoyed, but the inmates of them are equally healthy with those who inhabit the cells below. Divine service is performed on Sundays, by pastors who serve gratuitously. The chaplain takes his station at one end of a corridor, the prisoners approach their doors, open a small wicket in them, and listen. A curtain is let down in the centre of the corridor, to prevent the convicts from seeing each other across it. Religious books are supplied, but there is no library of miscellaneous publications. The punishments inflicted for breach of discipline are deprivation of exercise, diminution of the quantity of food, and confinement in a dark cell. No flogging is allowed, and very little punishment of any kind is required. A board of inspectors appointed by the Legislature, exercises a general superintendence over the prison, and reports annually to the Legislature. Their reports are accompanied by reports also from the warden and physician ; the whole forming authentic and interesting records of the numbers and condition of the convicts, and of the effects of the Penitentiary system for each successive year.

From a careful examination of the reports on this Penitentiary for 1832, 1833, 1834, 1835, 1836, 1837, and 1838, Mr. Combe found the inspectors earnestly representing to the Legislature, the want of "the services of an experienced, intelligent, and pious man, who shall be the instructor of the convicts, and visit them frequently in their cells, inculcating day by day the principles of temperance and religion." Whatever help they receive towards mental improvement are derived from the gratuitous services of clergymen. In his reports, the warden specifies deficiency of education as one common cause of crime, and he remarks that the convicts in general do not possess the instruction given even in the free-schools of the state. He also repeats again and again, as the result of all his experience—that, "to communicate any material benefit to those who are brought to the Penitentiary, their sentences should extend to *two years or more*." This extraordinary neglect of moral and religious instruction inspires our philanthropist with a train of extremely just and justly severe reflections.

No single circumstance, he observes, in the history of Pennsylvania, indicates the low state of general information among her people more strongly than the extraordinary fact here brought to light, that, after erecting this Penitentiary at a vast expense, and providing it with all the physical requisites for accomplishing the objects for which it was instituted, the Legislature continues insensible to every entreaty of its legal guardians, urged in the most forcible language for six successive years, to be furnished with adequate means of moral and religious instruction for the prisoners. An enlightened people would as soon have built a palace without a roof, as have instituted a Penitentiary (a house for moral reformation), without a moral and religious instructor! One such teacher is not sufficient. If the intention of improving the minds of the convicts be seriously entertained, labour must be bestowed in the cultivation of their moral and intellectual faculties proportionate to their ignorance and wickedness. If well constituted minds require extensive moral and religious training and instruction to preserve them in the paths of virtue, ill constituted minds need much more. Although we form the highest estimate of the quantity and quality of this instruction furnished to the convicts, by the excellent persons who labour in the Penitentiary gratuitously, or who are rewarded by benevolent societies, the very fact that the legal inspectors proclaim it to be insufficient, leaves the Legislature of Pennsylvania without excuse in denying a further supply. Whenever the philosophy of mind is generally understood, this penury of instruction will appear nearly incomprehensible. The philanthropists of Europe expect the American commonwealths to prove, by a liberal expenditure of public money for moral objects, the superiority (of which they so loudly boast) of a government emanating from, and responsible to, the people, over those which depend on the will of an individual or of a high-born aristocracy. A democracy which refuses moral and religious instruction to its convicts, apparently from no consideration except that of saving the expense, is a greater foe to freedom than the most ruthless despot of Europe: such a democracy saps the faith of good men in human virtue; while the tyrant only stifles its outward manifestations, leaving the faith itself to burn the brighter the more he labours to extinguish it.

In his seventh report, the warden observes that "a minute inspection of the character of the unhappy inmates of prisons has developed another interesting fact—that many more of them than was supposed are really irresponsible beings;" and, to the same effect, the inspectors remark, that "there are no doubt *some criminals who are incorrigible*." On such, the effects of the Penitentiary system do not generate vindictive feelings, but they leave the establishment with sentiments of regard rather than resentment towards those who have attempted to alter their vicious habits. Phrenologists have long proclaimed, that the great cause of the incorrigibility of criminals is the excessive predominance of the organs of the animal propensities, over those of the moral and intellectual faculties, and that this class of persons is really composed of moral patients, who should be restrained, but not otherwise punished, during life. As Nature is constant in her operations, this truth will in time force itself on the conviction of society; and after injustice and severity shall have been perpetrated for ages, by the free and the fortunate towards the ill-constituted and unhappy, a better system of treatment will probably be adopted.

The health of the prisoners is indicated, by Mr. C. in a tabular view which gives 3.4 per cent. as the average of deaths. In some instances, according to the Reports, the deaths arise from incurable disease affecting the prisoners at their entry, and that the average is greatly augmented by the sickly inefficient condition of the coloured prisoners, who "by self-abuse, become debilitated in mind and body, and diseased, and make up 3-5ths of the whole mortality."

A few convicts, labouring under insanity at the time of their condemnation, have been sent to the Penitentiary, and the inspectors complain that in one or two instances they have been convicted in the full knowledge of their insanity, with a view to get quit of them as troublesome to the country. This fact is not a little surprising: the next has an important bearing on prison-discipline. In a report read to the Senate on February 14, 1837, a committee of the legislature stated, that "no instance of insanity has, as yet, occurred in the Eastern Penitentiary, which has not been traced to causes wholly independent of, and either anterior or posterior to the confinement. Whatever might be the disturbing and stultifying effects of strict seclusion, without labour, without books, without moral instruction, and without daily intercourse with the keepers, certain it is, that with all these circumstances to relieve the distressing ennui, and the supposed maniacal effects of absolute isolation, the inmates of our prisons are in no danger of mental aberration, or alienation of mind, from the cause supposed:" it is "shewn conclusively that the unbroken solitude of the Pennsylvania discipline does not injuriously affect the health of the convicts." Mr. C. visited a number of the male convicts who had been confined for periods ranging from seventeen months to eight years, and their appearance did not indicate either bad health or mental depression. He was introduced also into the cells of several female convicts, some of whom had ornamented the walls with pictures and needlework, giving to the apartments an appearance of tidiness and comfort that bespoke a healthy condition of mind in the inmates. To him, the food appeared to be too rich and abundant for solitude, and several of the men had applied to be placed on a tea diet, consisting of tea and bread, which is allowed them when asked for. Secret vice abounds among the men, particularly the coloured convicts, who have few mental resources; but one of the white male prisoners had celebrated its pleasures and pains in an ode written with a pencil on the white-washed wall of his cell.

We will now introduce briefly Mr. C.'s own opinion concerning the effects of systematic seclusion in this Penitentiary. He observes that the system of entire solitude, even when combined with labour, and the use of books, and an occasional visit from a religious instructor, leaves the moral faculties still in a passive state, and without the means of vigorous active exertion. According to his view of the laws of physiology, this discipline reduces the tone of the *whole* nervous system to the level which is in harmony with solitude. The passions are weakened and subdued, but so are all the moral and intellectual powers. The susceptibility of the nervous system is increased, because organs become susceptible of impressions, in proportion to their feebleness. A weak eye is pained by a degree of light which is agreeable to a sound one. Hence, it may be quite true, that religious admonitions will be more deeply felt by prisoners living in solitude,

than by those enjoying society ; just as such instruction, when addressed to a patient recovering from a severe and debilitating illness, makes a more vivid impression than when delivered to the same individual in health ; but the appearances of reformation founded on such impressions are deceitful. When the sentence is expired, the convict will return to society, with all his mental powers, animal, moral, and intellectual, increased in *susceptibility*, but *lowered in strength*. The excitements that will then assail him, will have their influence doubled, by operating on an enfeebled system. If he meet old associates and return to drinking and profanity, the animal propensities will be fearfully excited by the force of these stimulants, while his enfeebled moral and intellectual powers will scarcely be capable of offering any resistance. If he be placed amidst virtuous men, his higher faculties will feel acutely, but he still feeble in executing their own resolves. Convicts, after long confinement in solitude, shudder to encounter the turmoil of the world ; they become excited as the day of liberation approaches, and feel bewildered when set at liberty. In short, this system is not founded on, nor in harmony with, a sound knowledge of the physiology of the brain, although it appeared to Mr. C. to be well administered.

Solitary confinement, with labour, is enforced at the New Jersey state prison, and the preceding views are strengthened by the report presented to the Board of Inspectors in 1839, by Dr. J. B. Coleman, the physician to this institution. He states that, among the prisoners, there are many who exhibit a child-like simplicity, which shews them to be less acute than when they entered. In all who have been more than a year in prison, some of these effects have been observed. Continue the confinement for a longer time, and give them no other exercise of the mental faculties than this kind of imprisonment affords, and the most accomplished rogue will lose his capacity for depredating with success upon the community. The same influence that injures the other organs will soften the brain. Withhold its proper exercise, and as surely as the bandaged limb loses its power, will the prisoner's faculties be weakened by solitary confinement. Dr. C. concludes his account of the effect of this treatment, in these terms : " While it subdues the evil passions, almost paralyzing them for want of exercise, it leaves the individual, if still a rogue, one who may be easily detected ;" in other words, in reducing the energy of the organs of the propensities, it lowers also that of the organs of the moral and intellectual faculties, or causes the convict to approach more or less towards general idiocy. Dr. C. does not inform us whether the brain will not recover its vigour after liberation, and thus leave the offender as great a rogue after the close, as he was at the beginning of his imprisonment.

We have dwelt at greater length on this Penitentiary and its discipline, then was our original intention ; but, as we see great importance in the records of principles and system in the experience of intelligent medical officers, so we feel prompted to assist still farther in enabling medical officers at home to appreciate the results of " solitary confinement" under the direction of their transatlantic brethren. With this impression for our inducement, we would beg the reader to accompany us a little longer in attending to Mr. Combe's concluding observations relating to this establishment. At Auburn, there is a system of social labour which, in his

opinion, is better than that of Pennsylvania, in so far as it allows of a little more stimulus to the social faculties, and does not weaken the nervous system to so great an extent; but it has no superiority in regard to providing efficient means for invigorating and training the moral and intellectual faculties. The Pennsylvania system preserves the convict from contamination by evil communications with his fellow-prisoners, and prevents his associates from knowing the fact of his being in prison. These are advantages that go so far to compensate the evils of solitude, but do not remove them. In maintaining, as he does, that some men are moral patients who should be restrained, but not otherwise punished, he has often been met by the objection, that this doctrine destroys human responsibility. His answer has been, first, that in urging this view, he desires only to extend the class of idiots and the insane, who are by universal consent absolved from responsibility; and, secondly, that men in general, while they reject as dangerous and untrue the proposition in the abstract, adopt it practically, and are unwittingly guilty of the most flagrant inconsistency and pernicious injustice. Mr. C. has asked these objectors, if they would receive into their families, as domestic servants, or into their employment in stores, convicts who had served out their time in state prisons, supposing them qualified by knowledge for the duties of these stations; and most of them have answered that they would not. On being asked why they would decline, they have generally replied that they had not sufficient confidence in their reformation. There is obviously great inconsistency in such conduct. If they believe that every individual has power to reform himself, and that the prison is wisely framed to effect this reform, it is cruel to assume that the individual in question is not reformed, and to exclude him from social comfort and honour on this assumption. The truth is they *act* on the principle that some criminals are incorrigible, and that this may be one of the number, and therefore decline placing trust in any. Yet they blame him for teaching the same doctrine, and desiring to found on it a better practice.

Mr. Combe had the satisfaction of finding that these views of his are supported by the experience of the inspectors and warden of the "Eastern Penitentiary." They not only express a desire that the incorrigibles should be treated as patients, but strongly urge the necessity of an asylum for discharged convicts, previously to their returning into common society. They remark that the situation and sufferings of discharged convicts, have excited their attention and sympathy. The small sum of money—five dollars—allowed to a convict on his discharge is often expended whilst he is seeking for employment. But when that is gone, and no employment can be had, what hope is there that he will be able to struggle against poverty, and maintain his virtue? This class of men, as well as a large portion of the labouring poor, need advice and assistance to help them along the rugged pathway of life. The unwillingness manifested by most employers to take persons released from prison into their workshops, makes it difficult for convicts to obtain good situations at any period of the year, but during the Winter especially. Out-door work is scarce, and those discharged at this season often find themselves in so very destitute a situation, that we need not be surprised if they should sometimes be tempted to steal rather than starve. These officers believe much benefit

would result from the courts either extending or diminishing in a slight degree the confinement, so as to make it terminate in either the Spring, Summer, or Autumn.

While this penitentiary system of treatment is pursued, it is manifestly necessary, in Mr. Combe's judgment, that there should be an asylum for convicts intermediate between the prison and society. Before a criminal can be fitted to re-enter the social circles of his country with a fair prospect of continuing in the paths of virtue, the discipline which he has undergone must have invigorated and enlightened his moral and intellectual powers to such an extent, that he, when liberated, shall be able to restrain his own propensities, amidst the usual temptations presented by the social condition. Now, there is only one way of strengthening faculties, and that is by exercising them; and all the American prisons which he visited are lamentably deficient in arrangements for exercising the moral and intellectual faculties of their inmates. During the hours of labour, no advance can be made, beyond learning a trade. This is a valuable addition to a convict's means of reformation; but it is not all-sufficient. After the hours of labour he is locked up in solitude, and it is very doubtful if he can read, for want of light; but, assuming that he can—reading is a very imperfect means of strengthening the moral powers. They must be exercised, trained, and habituated to action. Mr. C.'s opinion is, that in prisons there should be a teacher of high moral and intellectual power for every eight or ten convicts; that, after the close of labour, these instructors should commence a system of vigorous culture of the superior faculties of the prisoners, excite their moral and religious feelings, and instruct their understandings. In proportion as the prisoners give proofs of moral and intellectual advancement, they should be indulged with the liberty of social converse and action, for a certain time on each week-day, and on Sundays, in presence of the teachers; and in these *conversazioni's*, or evening parties, they should be trained to the use of their higher powers, and habituated to restrain their propensities. Every indication of over-active propensities should be visited by a restriction of liberty and enjoyment; while these advantages, and also respectful treatment, and moral consideration, should be increased in exact proportion to the advancement of the convicts in morality and understanding. By such means, if by any, the convicts would be prepared to enter society with their higher faculties so trained and invigorated, as to give them a chance of resisting temptation, and continuing in the paths of virtue. In no country, has the idea yet been carried into effect, that in order to produce moral fruits, it is necessary to put into action moral influences, great and powerful in proportion to the *barrenness* of the soil from which they are expected to spring. The convicts, whom he saw in this prison, presented the usual deficiencies in the organs of the moral sentiments in relation to those of the animal propensities which distinguish criminals in general.

We will now place on record some "Notes" of our traveller's, on the brain and skull in the savage and civilised families of mankind. Attended by several medical friends, he visited the Marine Hospital at Chelsea, near Boston, an institution for the temporary relief of sick and disabled seamen. All mariners, who have paid hospital-money, are admitted into it, except such as have contagious or incurable diseases, or who are insane. Here,

Mr. C. had an opportunity of witnessing two necrotomical inspections; and, at his request, Dr. Howe drew up an account of his observations on the skull and brain, in both subjects.

No. I. *Henry Nye*, a native of the Sandwich Islands: at eight years of age, he left his native island in a foreign ship, and passed his life as a sailor: he was a good-looking man, and a favourable specimen of his tribe; and his head presented the form which usually characterizes the Caucasian race: he died in his twenty-fourth year. When denuded of its membranes, his brain weighed exactly three pounds troy.

No. II. *Daniel Freeman*, a North American Indian: his parents were of the Gay Head tribe; but he lived principally among the whites, and had been on ship-board. He was a well-made man, with an organization superior to that of the generality of his tribe; he died in the hospital, aged twenty-nine years. His brain weighed two pounds, twelve and a half ounces.

According to Dr. Howe's notes, "both brains shewed a proportionately large development in the animal region: (Nye's the largest.) The organs of the moral sentiments were clearly the largest in Nye's brain: the anterior lobe was also longest, but they were of equal height. Nye's skull was higher and broader in the coronal region; it resembled more closely the Caucasian skull. The brain presented a corresponding development. Mr. Combe pointed out the greater development of the region of cautiousness in Nye's skull; and, on examining the corresponding convolutions of the brain, they appeared decidedly fuller than those in the brain of Freeman. The skull of Freeman was fuller in the region of veneration than Nye's; and the corresponding convolutions in the brain were also clearly larger. Nye's skull was more protuberant in the region of benevolence than Freeman's, and the corresponding convolutions of the brain were also fuller. The skulls of both were equally developed in the region of the organ of hope, and a corresponding fulness was observable in both, in the convolutions which constitute this organ. In general, the convolutions were rounder and plumper in the brain of Nye than in that of Freeman; but the latter was the firmer and harder of the two." From these and other instances, Mr. C. concludes that the natives of the Sandwich Islands possess a higher development of the moral and intellectual organs, in proportion to those of the animal propensities, than the North American Indians, and they have exhibited corresponding qualities of mind. They are more easily civilized and christianized.

On a former occasion, an "eminent philosophical divine" had drawn Mr. C.'s attention to the simplicity of the cranial sutures in *brutes*, and in the savage compared with the more civilized man: he had also remarked that, on the inspection of one quarter or less of a skull, he could decide whether it were that of a Charib, for instance, or a European; and that the complexity of the sutures in the latter attracts the notice of the most inexperienced eye. This led the party visiting the marine hospital to examine a variety of skulls, with a view to the determination of this point, and Dr. Howe recorded the following notes:—

"I. This was the skull of an Indian of the Gay Head tribe, aged fifty-six. The sutures were but faintly marked by a continuous line; the serrations had disappeared. The sagittal suture had disappeared entirely. II. A Penobscot

Indian's skull presented regular and distinct sutures. The serrations in the coronal suture were short, and not so minute as in the Caucasian crania. The serrations in the sagittal and lambdoidal sutures were distinct, and rather long, but not minute. III. A native of Celebes. The coronal suture presented no serrations; the bones seemed merely in juxta-position; and the dividing line was straight and distinct. The sagittal suture presented in the front part only a continuous straight line; in the back part a waving line, but no distinct serrations. The lambdoidal suture presented no regular serrations shooting distinctly across and into each other, but an irregular line. IV. A negro's skull presented a coronal suture with minute and distinct serrations; a sagittal and lambdoidal suture, with distinct and coarse serrations projecting across and far into each other. V. A Sandwich islander, aged twenty-four. The sutures were hardly discernible; the serrations not at all. VI. The skull of a North American Indian, aged twenty-nine, presented very faintly marked sutures with short serrations. The sutures not discernible on the inside of the skull."

These cases support the observation that the sutures are simple in savage skulls. Although we consider this fact in comparative osteology as established, yet would we recommend its farther verification, by frequent autopsy, in the hands of those naturalists who may find it practicable.

Our next note will present the somewhat singular feature of a *duad* bearing rather interestingly, and at the same time, on surgery and phrenology. We relate the case, as a little episode, and its consequences. It appears then, that Dr. Bush had informed Mr. Combe of Dr. M'Clellan's having removed two tumors from the head of a young man; one of them being internal to the skull, the other external, at the situation of the organs of firmness and conscientiousness. It was also stated, that a portion of the skull had been removed, to the extent of several square inches; that in this region, the brain was found to have disappeared; that, nevertheless, the patient had sat up in full possession of all his mental faculties, and conversed with the doctors during the operation; and that, particularly, he had manifested great firmness and self-possession. Having made this communication, Dr. B. requested Mr. C. to reconcile these facts with phrenology, as the case had attracted much attention, and was extensively spoken of, in Philadelphia, as one strikingly adverse to a fundamental principle of this science. Mr. Combe replied, with his characteristic straight-forwardness, that if such a case had occurred, it was the first sufficiently authenticated one which he had heard of; and that he could offer no opinion on it, without a personal inspection. Accordingly, with equal kindness and candour, Dr. M'Clellan took Mr. C. with him, when he went to dress the wound; observing, on the occasion, that the supposed difficulty in regard to phrenology had ceased to exist. He stated that, at the third dressing, to the astonishment of Dr. Bush and himself, "the cerebral convolutions had risen up; and that, in point of fact, they had never been destroyed, but only displaced by the pressure of the internal tumor." This was about the size and form of the half of a hen's egg cut longitudinally: the external tumor was nearly of the same size. They both arose from the effects of a blow inflicted with a stone, so slight at first as scarcely to be noticed; and their growth had extended over a period of three years. The interior tumor had been formed between the skull and the falx, the longitudinal canal having been carried down un-

injured below its surface. Dr. McClellan remarked, "that the slow growth of these tumors explained the non-affection of the mental faculties; and that the brain had never been disorganized, but merely pressed downwards, and Nature had accommodated herself to the change." Dr. McC. also stated, that this case shewed the importance of surgeons knowing accurately the situation of the organs; because, although he now saw that the organs of Firmness were not involved, he would at first have certified that they were destroyed, and that the patient manifested the faculty powerfully. He was now satisfied that the organs affected by the tumor were Self-esteem and Love of Approbation, and that he had not had adequate opportunities of judging whether the manifestations of these faculties were affected or not; besides, there was manifest evidence that the convolutions had not been disorganized.

Dr. McClellan's patient recovered; and, after his convalescence, he mentioned facts that shewed that his sentiments of Self-esteem and Love of Approbation had not remained unaffected during the progress of the disease. He was a player and ventriloquist, and performed in the western cities. He stated that, before receiving the blow, he was an entire stranger to diffidence. For the first three months after the accident, he felt no change in his mental condition, and was not aware that there was an affection of his head. At the end of that time, the external tumor began to attract his attention, and he felt also visitations of diffidence, which he had never before experienced. He was convinced that his powers of acting were unimpaired, yet he could not give effect to this conviction; for he felt as if he should fail. In the course of time, his self-confidence diminished so much, that he could no longer appear on the stage, yet his intellectual faculties were clear and active. So far, therefore, from this case being unfavourable to phrenology, it proved a striking confirmation of its truth, when all the circumstances had been fully investigated. Mr. Combe records the following honourable testimony to the magnanimity and ingenuousness of his transatlantic acquaintance, in these terms.

"Dr. McClellan is Professor of Surgery in the Jefferson College, Philadelphia, and he subsequently informed me, that before my arrival in that city, he had ridiculed phrenology in his lectures; that he had come to my lectures with the view of obtaining additional materials for refuting it; that he had at first conceived this case to be one strongly adverse to its pretensions, but now saw that it was the reverse; that the result of hearing my whole course, had been, to convince him of the futility of the objections on which he had previously relied, and to dispose him to devote a serious attention to the subject. Before Mr. C. left Philadelphia, the professor made the *amende honorable* to his class; told them that he had rashly condemned the science; that its principles were consistent with the best established facts in physiology, and that it was supported by a greater body of evidence than he had imagined. He wrote a letter to the same effect to Dr. Sewall of Washington, whom he had previously encouraged in his attacks against the science, and strongly counselled him to revise his opinions."

This Dr. Sewall published a book with the mis-title, "*The Errors of Phrenology refuted*;" but the refutations of the poor sciolist were soon triumphantly, though severely, refuted by Dr. Caldwell of Louisville, in his "*Phrenology Vindicated*," where Dr. S.'s falsifications of the phrenological doctrine were shewn to be so flagrant, and his miserable sophistries to

be so disreputable as to render him unworthy of credit as an evidence or of regard as a logician. In the "Notes," iii. 41, Mr. Combe exposes one egregious instance of this man's antiphrenological delinquencies, and then resigns him contemptuously to the judgment of posterity.

Mr. C. furnishes us with some insight into the "residences of the poor" in the Pennsylvanian capital. It is distressing to learn, he says, that even in this beautiful city, the houses of the poor too much resemble the residences of the same class in European towns. Dr. Parrish informed him that great numbers of young children die here every season in hot weather from *cholera infantum*, or, as it is commonly called, "the Summer complaint." The poor live in small houses, never intentionally ventilate their rooms, and seem not to know the use of cold water. The doctor would enter one of these dwellings on a summer morning when the thermometer stood at 90°, and find an infant shrivelled and bedewed with a clammy perspiration. It had been gasping all night for breath, and not drawn one mouthful of fresh air, and had, perhaps, never been washed from its birth. Death speedily relieves it. Many of the parents who thus treat their children are Irish. He hired an Irish nurse to suckle one of his own children. She gave her own son to an Irish family to board. When the hot weather came, he thought of her infant, and went to see it. It was in the condition before described. In three hours more it would have been dead. Without a day's delay, he sent the whole Irish family with the child to his farm, and saved it. "I should have felt very uneasy," said he, "if it had died, because my child was thriving under the care of the mother whom nature had given to it, but whom I had taken away for the benefit of my own."

Very many observations, both substantial and declamatory, have lately been published in this country regarding the treatment of insanity, with or without the accessory application of restraint. In one of Mr. Combe's "Notes," we meet with an affecting picture of the way in which the "insane poor" are still treated by our brethren in the West. By information derived from about half the counties of the State of Pennsylvania, a committee of the House of Representatives ascertained and reported that, in a population of nearly 800,000, there are upwards of 1100 insane persons, including congenital idiots and those rendered fatuous by disease; whence it is inferred, that in Pennsylvania at large, there is a total of 2300 insane and idiotic poor. Nearly two-thirds of this number are in the worst circumstances; and probably not less than a thousand of those unfortunates are kept in county poor-houses and prisons, or in families at auction-prices.* Not being subjected to medical or moral treatment, recovery under these circumstances is very rare, from five to eight in a hundred being an extremely favourable estimate. The following extracts from the committee's report shew the hardships to which these unhappy beings are exposed. "In one county of forty persons, more or less deranged, seven are confined in cells, which are nearly if not quite under ground. They may be seen from without through iron bars in the cellar windows.

* This means, that the poor are boarded out at so much a year to those who will take them at the cheapest rate.

Among them is a German girl, twenty years old, seemingly in perfect health of body, with beautiful teeth and hair, and without any symptoms of malignity, who has been in such a cell five months, and is considered as incurable. This interesting case, under treatment for a few months in a proper insane hospital, would probably result in a complete restoration to reason and liberty. Several other like cases are described, and all these, we are told, are shut up under bolts and bars, neglected and almost forgotten, with no friendly voice to break the silence of their solitude; and presented, one and all, the same revolting picture of suffering. In one county a man, thirty-five years old, had been confined for years in a miserable shed; when the bolt was drawn and the door opened, he was lying on the floor among straw, no bed was to be seen though it was cold weather, and we had to plunge through snow which had fallen the day previous, to get to his wretched abode. In another county, a woman of thirty-five was confined in like manner till she raved herself to death. While decided testimony is given to the good keeping and treatment of paupers generally, it is added that the poor lunatics are found with the feet chained together, or chained by the body to iron weights, logs of wood, or to the trunks of trees; or, what is more common, under ground, without ventilation, and breathing an air loaded with intolerable stench."

We are old enough to remember the time when an equal destitution both of humanity and science in the management of insane persons, was displayed very generally throughout the Old World, and there is reason still to fear that they do not experience so much tenderness of treatment, in some instances, as particular cases would justify. Dr. Dunglison and other medical writers, have laboured zealously to free Pennsylvania from the disgrace of such scenes, and the forementioned committee have reported a bill for the erection of a proper asylum at the expense of the Commonwealth. We heartily wish it every success, in its erection, constitution and applications.

Ventilation, in all that regards its use and effects, belongs particularly to the province of medical investigation. Mr. Combe appears to possess a vivid and rational sense of its necessity, and he recurs no fewer than twenty-four times to the subject, with exhibitions of the evils resulting from its neglect, and of the advantages derivable from its proper and efficient regulation. With an outline of his "Notes" and illustrations of this process, so indispensable to the health of mankind, in all climates and at all temperatures, we shall conclude the present article. Mr. C. was in the habit we perceive, of extending his prelections to an unusual length; but he adopted this practice under precautions which insured to his hearers the benefits of fresh air and change of posture. We discern, in his practice, a system which might be usefully adopted by professional lecturers and their pupils. He opens one of his "Notes," relating to ventilation, with the remark: a sermon of an hour's duration appears very long, and a lecture of two hours wears a still more formidable and forbidding aspect. Aware of this, he delivered at the end of the first hour a brief address, by way of episode, to the audience, mentioning that phrenology taught us that the mind thinks by means of the brain, just as we walk by means of the legs; that the brain is liable to become fatigued by too long attention, as the locomotive muscles are by too much walking;

and he therefore proposed to them to take a brief rest. He requested them to stand up in order to vary their position, also to converse freely with each other for the sake of relaxation, the more merrily the better, for cheerfulness circulates the blood; and he called their attention also to the absence of all means of ventilating the hall, remarking that, as we had already breathed the air which it contained for a full hour, it must have lost much of its vital properties, and needed to be renewed. He requested the gentlemen to put on their hats, and the ladies their shawls, to avoid catching cold, and then had the windows widely opened. This proceeding caused some astonishment and alarm at first; for the Americans generally have a dread of cold air, amounting almost to an *aërophobia*. He assured them that they would suffer no inconvenience, and they submitted to the experiment. The interval allowed was only five minutes, at the end of which he resumed the lecture; but so refreshing were the effects of the brief rest, of the change of position, and, above all, the admission of pure air, that during the second hour the attention was as completely sustained as during the first. The same practice was continued every evening through the whole course, and with the same success. Many individuals expressed their gratification at having discovered such simple means of relieving the tedium of a long discourse; and as his audience continued to increase, after the length of the lectures was generally known, it became evident that the two hours' application, when thus arranged, was not felt as an unbearable affliction.

Many of the schools, at Boston, are deficient in ventilation; and, says Mr. C., the consequence of this are headache, loss of appetite, and irritability, in such of the teachers as do not enjoy exceedingly robust constitutions; and drowsiness in the children, in the latter portion of each meeting, when the air is particularly foul. In the morning, when the children come fresh to school, they look healthy, cheerful, and well dressed; but words form the staple of the instruction, to the too great neglect of objects. Improvement in the things taught, as well as in the modes of teaching, advances slowly, not through want of good attention in the members of the school committees, but from attachment to old customs, and lack of knowledge of better modes than those now existing. The necessity of ventilating common-school houses however has been efficiently recognised at Boston in a new erection of the kind. Mr. C. visited it, and thus describes the arrangements. The ceilings of the rooms are high. In Winter a large supply of air, heated by a brick furnace to a moderate temperature, is introduced, and it is let off by five or six separate flues in different parts of the room, which can be opened and shut at pleasure. In each of the rooms the temperature, regulated by a thermometer, was 67° F., the external air being 35°. The garret which used to be lost, has, at Dr. Howe's suggestion, been floored and plastered, and furnished with swinging ropes; and in bad weather the children play in it during the intervals of teaching. All the seats have backs. The teachers told me, that since they have occupied this school-house, the vivacity and capacity of the scholars have obviously been raised, and their own health and energy increased. Appended to this, he transcribes from a tract intitled "Reasons for establishing a Society for improving the Dwellings of the Labouring Classes in Edinburgh, 1840," the following statement:—"A

metal tube, opening from the upper part of the wall of the room, and joining a general tube which terminates in the furnace of some neighbouring factory, is all that is required to ensure a constant supply of fresh air to the inmates of that chamber, though, as often happens, they should be upwards of a dozen in number. A few years ago, a large building in Glasgow, each room of which contained a family, and the tenants of which were in all five hundred, was ventilated in this way, and the result was most satisfactory. Previously to the ventilation, diseases, and particularly typhus fever, had been very fatal to the inmates; five persons had been ill of the latter disease in one room, and in two months, at the end of 1831, fifty-seven had been attacked by it. After the apparatus was applied, four and a half years elapsed, during which there were only three cases of fever, and two of these in a room where the tube had been destroyed. Mr. C. earnestly recommends these facts to the attention of the Americans of all classes; for they are little sensible of the extent to which they injure themselves by living in bad air.

In one of his phrenological lectures, when treating of "Physical Education," Mr. C. embraced the opportunity to inculcate the indispensableness of a healthful atmosphere to the preservation and improvement of our native energies, both physical and mental. Having observed the unwholesome condition of the class-rooms, court-rooms, and other places of public resort in Boston, for want of ventilation, he called the attention of the audience strongly to the dependence of the mental faculties on the condition of the brain for their power of action; to the dependence of the brain, for its vital properties on the condition of the blood; and to the dependence of the blood on the condition of the digestive and respiratory organs; thus pointing out the direct connection between sound digestion, pure air, and mental vigour. He found that even a brief exposition of the structure and functions of the digestive and respiratory organs, and of their connection with the brain, illustrated by large drawings, brought home to the understandings of his audience the importance of digestion and ventilation to mental energy, and gave general satisfaction. These ideas were by no means new to them; but, although they had often heard them stated by other lecturers, and had read them in books, it had occurred to few to carry them into practice. He, therefore, insisted largely on the evils which they inflict on themselves and their children by this neglect. Pulmonary consumption produces a large proportion of all the deaths that occur in New England, and he pointed out to them the train of causes in full operation, which lead to this disease. By breathing hot and vitiated air in ill ventilated apartments, the blood is not properly aerated, the lungs are enfeebled, and the tone of the whole system, mental and bodily, is lowered; nevertheless in this condition they make the most rapid transitions from a temperature of 70° or 75° of Fahrenheit's thermometer, which is common in their houses, churches, and lecture-rooms, to one of 5 or 10 degrees below zero, in the open air; a change sufficient to injure the respiratory organs in the most robust state of health, and much more so when weakened by this previous injudicious treatment.

On his visit to the "Farm Schools," Mr. C. thought the children presented a melancholy aspect. The weather was cold, and as the cold had come on suddenly many of them had not yet received their winter supply

of stockings and shoes. They were crowding round the stoves with an expression of suffering and discomfort, which was distressing to behold. The buildings in which they live, are frame or wooden houses, divided into moderate-sized rooms, low in the ceilings, and without any means of ventilation except the doors and the windows. They sleep crowded together in these apartments; the beds stand so close to the windows and the air is so cold, that they are not open during the night, and the air is excessively vitiated before the morning. The consequences are visible in the appearance of the children; many of them are suffering under ophthalmia, and they present generally that sunken, inanimate, and unhappy aspect which betokens blood in a bad condition from imperfect nutrition and impure air. There is, he believes, no stinting of food; but the digestive functions suffer from the confinement in an unwholesome atmosphere, and hence the nutrition is imperfect. Speaking of the Alms-House at Philadelphia, which is commonly denominated the "Pauper Palace," from its being altogether so magnificent in reference to its objects, our author relates, that the whole establishment is kept clean to the eye, but the nose and lungs detect imperfect ventilation, particularly in the departments for the children; who are afflicted with ophthalmia, languid looks, and other indications of a low condition of the corporeal system. It is extremely difficult to induce paupers voluntarily to admit fresh air into their apartments, except in very warm weather, and in building an alms-house, adequate means for involuntary ventilation as well as warmth should be provided. He was glad to observe that pictures, objects, and apparatus, are supplied for teaching the children; an advantage not enjoyed in many of the city schools. Mr. C. attended a public meeting in the Hall of the Supreme Court, and he complains of its being destitute of ventilation. He suffered severely for several hours after leaving it from the effects of bad air. On mentioning this next day, he was told that several lawyers have fallen down dead on the spot while engaged in the most animated pleadings in this hall, and that, although apoplexy was assigned as the cause, some medical men, who knew the state of the atmosphere, had expressed an opinion that these catastrophes were probably hastened if not caused, by asphyxia. The late arrangements for ventilating the British Houses of Parliament are well known here; but no person has yet proposed to adopt them, or any other means, for the preservation of life and health in the public chambers and apartments of the capital.

Throughout this long article, we have not been obtrusive, we trust, with a too frequent introduction of phrenological facts and inductions: with this instance of self-denial for our plea, therefore, we would claim the reader's indulgence while we follow Mr. Combe in his excellent remarks on "phrenology and education:" the last being a theme on which the anxieties of our profession are, in these days, intensely concentrated. The observation was occasionally made to Mr. C. by persons who had heard his lectures on education, without having attended those on phrenology, that the views presented were so sound and luminous that he would have done much more good if he had omitted phrenology, and delivered them simply as founded on common sense. This, said they, would have saved the lectures from the prejudices which exist in so many minds against phrenology, and which render them suspicious of every doctrine

and practice springing out of it. His answers were, *first*, that a knowledge of the influence of the organs on the power of manifesting the mental faculties, is a fundamental requisite to the right understanding of the subject of education. *Secondly*, That to have withheld this important knowledge, because it was unpopular, would have been improper and uncandid. By following such a course he should also have been extending the impression already produced by too many disingenuous phrenologists, that the science is worthless, and that the soundest views of education may be obtained without its aid, which he knows not to be the case. *Thirdly*, That such conduct would have been unjust and injurious towards the founders and defenders of phrenology. It would have been appropriating to himself the fruits, and leaving to them not only the toil but the obloquy of having raised them. *Fourthly*, That lectures on education, founded on phrenology, make a deeper and more permanent impression on the understanding than if based on mere common sense, and can be more certainly and successfully carried into practice. Every man's common sense differs from that of his neighbour. In New England, he had visited a school, the head master of which told him, that he devoted one half of his whole hours of teaching to arithmetic and mathematics, because he had discovered that pupils who excelled in those branches soon became proficient in every other, such as grammar, geography, and repetitions. No phrenologist could have held such views, because he must have known that arithmetic and mathematics depend on different faculties from those which take cognizance of language, grammar, and general reasoning. Mr. C. observed that the organs on which arithmetic and mathematics depend predominated over the whole intellectual organs in this person's own head; in consequence of which he could teach these branches with most ease and success, and his common sense led him to conclude that all his pupils were similarly constituted to himself. When teachers rely solely on common sense and their own experience, they act merely on the suggestions of their strongest propensities, sentiments, and intellectual faculties, whatever these may be, without reference to the differences which exist between their minds and those of their pupils. Phrenology presents a scientific guide to all.

With this miscellany of selections, we must now take leave of Mr. Combe's *Moral Philosophy* and his *Notes on the American People*, their manners, character, and institutions. His pilgrimage through the transatlantic states was chiefly a "Phrenological Visit," during which he registered a multitude of curious and most interesting facts relating to the physiology of the brain in connexion with the manifestations of the mind; and, in the reports of his observations, the phrenologists will be gratified to find that the diffusion of their science is proceeding rapidly among the intelligent and enlightened classes of American citizens. Both in his *Philosophy* and his *Notes*, the general reader will meet with many speculations and principles strongly calculated to suggest the gravest reflections to a mind exercised in determining the preferable structure of society, and its bearings on the well-being of individuals and families and nations. In his greatly diversified topics relating to ecclesiastical polity, the theologian and legislator may discover the elements of a fair comparison between the advantages derivable from an established national church and those of

chapels for worship supported by voluntary contributions—between the patriotism of a limited monarchy and that of a democracy. Here we have accumulated a medley of sketches valuable, as we deem them, and appropriate as a study for the medical and ethical inquirer. For ourselves, we are not able to accept of Mr. C.'s guidance in the momentous concerns of politics and religion; but we greatly applaud the purity and fervour of his philanthropy, and we venerate with a grateful devotion his philosophy of the human mind, with its beautiful and unbounded and benignant applications.

A TREATISE ON PYROSIS IDIOPATHICA, OR WATER BRASH, AS CONTRASTED WITH CERTAIN FORMS OF INDIGESTION AND OF ORGANIC LESIONS OF THE ABDOMINAL ORGANS; TOGETHER WITH THE REMEDIES, DIETETIC AND MEDICINAL. By *Thomas West, M.D. &c. &c.*

It is perhaps quite true, that if a man were to sit down to write upon "Dyspepsia" at length, he would have almost as much to do, as if he had undertaken to unfold the mysteries of that perplexing class of disorders, to which the name of "hysteria" is generally applied. In the present day, therefore, when folios are out of fashion, it may be advisable for an author to content himself with the mere exposition of one of its forms, as affording the only chance of getting to the end of his subject, within anything like a reasonable number of pages; but still this unnatural division of diseases, by the consideration of one symptom, severed from those of which it forms a necessary part, has manifest practical disadvantages, not the least of which is, that the writer is imperceptibly led, not only to ascribe to it an undue importance with respect to the others, but even to exalt it so far above them, as to come at length to look upon it as the essential cause of the disease itself. In the treatise now under notice, however, the author may suppose that he has escaped from this error, because he altogether denies that the disease of which he treats is to be considered as a symptomatic one: his very title is "*pyrosis idiopathica*," and the whole train of his reasoning is directed to prove that it is a disorder per se, quite distinct from the various forms of dyspepsia, which, according to him, is an "organic malady," always complicated with disturbance in other viscera besides the stomach. It is probable, however, that persons who, like ourselves, have no favourite theory to support, will look upon it as another instance of an attempt to magnify a mere form of disease into a separate, or essential one.

Pyrosis, by which is meant a burning pain in the stomach, attended with copious eructation of a watery insipid fluid, known in Scotland by the name of "water brash," and in some parts of England by that of "black water," has been described by nearly all writers as a frequent symptom or attendant, in a greater or less degree, of one or other of the

forms of dyspepsia: it has been duly noticed in this practical relation, and certainly seems to have received its proper degree of attention, as a part of a complicated malady: therefore when our author complains (*vide p. 29*) that it has been but very insufficiently described by previous writers, he must mean that it has not been described to his own liking, or in accordance with his views of its nature, which is certainly the case, and which will probably continue to be so; since it is not every one who will be brought to look upon pyrosis as "dropsy of an open cavity," resulting from impaired innervation, produced by a regular current of "depressing and poisonous influences," from without to within.

Still the work is far from being devoid of interest or of usefulness, especially in the remarks relating to the dietetic causes of the malady: the style is somewhat rambling, and disfigured here and there by the use of oddly latinised words, which have no very precise meaning: added to this, there is a kind of running commentary, throughout the book, on other men's opinions, which renders it no easy matter to get at the author's own; which however, as we think are worth noticing, we shall proceed to give an analysis of.

The Treatise, though not divided into chapters, or parts, successively explains the pathological nature—the means of diagnosis—the post-mortem degenerations—and the treatment of pyrosis idiopathica, and we shall follow this order in our remarks upon it.

According to our author, the disease in question is a serous flux from the terminal exhalants of the stomach, arising from nervous debility, as well general as local; and which debility is induced by peculiar causes to be afterwards described. It is however always advisable to give the author's own words on these fundamental points, particularly when it happens that his language is not very plain: it is rather difficult however to find a paragraph, in any of the earlier pages, which will be sufficiently explicit to give a correct idea of his opinions; but at p. 52, we have the following, which appears to embrace the essentials of his theory, which he is there attempting to illustrate by comparing pyrosis with cholera.

"In pyrosis the skin and stomach are gradually affected, the innervation impaired, the circulation rendered languid and defective, the digestion feeble and imperfect, the animal spirits gradually depressed, the temperature and temperative principle manifestly at fault, the containing power of the blood-vessels loosened, the serous portion of the blood infiltrated, and considerable portions of the more watery part of it discharged by paroxysms." 52.

Now when we add to this that our author supposes, that in pyrosis idiopathica, the fluid is secreted as well from the fauces and œsophagus as from the stomach, and that, from its collection there, the disorder ought to be looked upon as "dropsy of an open cavity," we have presented in a small compass the whole of his views on the matter; but before we go further, let the author again speak for himself.

"Pyrosis then, in this our view, is only an aggravation of one of the common symptoms of derangement of the stomach. The pathological condition of the organ is one of great debility. For what is the affection but a dropsy of an open cavity? What is its proximate cause but an exhausted and disturbed state of nervous energy?" 3.

Even the writer himself, immediately after penning this passage, appears to have some misgivings as to the manner in which such an opinion may be received : thus he says—

“ In asserting that it is a dropsy of an open cavity, I am aware that it is a secretion of a mucous membrane, and duly bear in mind all the differences of the two tissues. Nevertheless, for practical purposes, I consider the analogy to be sufficiently strong ; and I will go further and add, that they who are in years, and pyrotic, will not be long without dropsy, unless the condition of stomach be improved.” 4.

Now for our own parts we cannot see the analogy at all ; the organization of the structures referred to is so different : the mode in which diseases commence and terminate in them is so different, that even if we were inclined to admit that the pyrotic fluid is a mere bland serous exhalation, we could not compare it with the albuminous contents of a shut sac : besides few now-a-days look upon real dropsical effusions as the result of atony of the secreting part, but rather as the effect of congestion in the circulating system. In our own opinion, it would be as rational to call a mucous catarrh from the lungs a dropsy, as to do so in the case of pyrosis. Neither do we at all recollect to have observed any disposition in old “ pyrotic patients ” to become dropsical ; on the contrary, they generally incline to the reverse, being for the most part dry, shrivelled, and emaciated ; but when a man has once started a theory, he is generally resolved to maintain it “ *coute qui coute*,” and in doing so, often endeavours to elucidate it, by reference to facts which do not seem to bear at all upon the question : thus, we do not see what light is thrown upon our author’s views of pyrosis by the following sentence :—

“ Nor are these the only morbid secretions of the same serous vessels. In some instances they secrete an acid liquor sufficiently corrosive to excoriate the tongue as it passes over it. I suspect that those cases of ventricular perforation which have in the north of England been made subjects of jurisprudent controversy, are of this nature. We all recollect how warm was the dispute of certain eminent physiologists on this matter. The discrepant evidence given by them before a judge and jury was reiterated in pamphlets and rejoinders. In my humble opinion it was a mere waste of words, and I deferentially assign these my reasons. 6.

We must refer our readers to the work itself for these reasons, begging to remind the author that, independently of John Hunter, Spallanzani, Adams, Burns and others, have proved the gastric juice to have the power of dissolving the coats of the stomach, after death, so as to produce a perforation of them : and that more recently Carswell has put the matter beyond all doubt : let us close this part of the subject with shewing what our author believes the gastric juice to be.

“ I believe pyrosis to be a disease of serous vessels destined to secrete a fluid, which, when healthily acted upon by the other fluids, viz. the salivary, the oral, the pharyngeal, and the glandular muco-acid juices of the stomach, becomes gastric juice ; and I believe in the existence of healthy gastric juice in no other sense but this.” 33.

Then there follows a kind of summary of the opinions of other writers on this disease, the grand object of which is, to pick out those which

appear to confirm the author's theory : the whole of this however conveys no exact information to our minds, being full of false analogies and a mode of arguing the matter which sometimes approaches to the ridiculous : take the following example.

" Cold and damp *ab externo* induce dropsy. The continued application of various badly-selected articles of food to the surface of the stomach slowly poisons the surface, affects the innervation, and induces pyrosis. Cold and damp *ab externo* favour pyrosis. Bury a man in salt to his neck for a few hours, and you will have dropsy." 25.

We really cannot say what a man might have after such treatment, but think it likely that he might be the worse for it, in some way or other.

On the matter of diagnosis, our author is not very minute, nor indeed would it have been necessary for him to be so, unless he had been endeavouring to establish a new disease, since there cannot be much difficulty in deciding upon the existence of pyrosis. In reality, he nowhere gives anything like a connected history of the symptoms, but contents himself with expounding those of the diseases with which he says pyrosis is apt to be confounded, and then labours to shew a difference between them. So long, then, as the comparison is confined to cancer of the cardiac or pyloric orifices of the stomach, to organic disease of the pancreas, or to symptomatic pyrosis from pregnancy, the distinction is evident enough ; but gastrorrhœa (or, as the author proposes to call it, "*stomach gleet*,") presents, as may be imagined, a serious obstacle to the maintenance of his views on the peculiar nature of pyrosis, for it is unquestionably the same disease in excess, and is described as such under various names, by all writers on the subject. Our author however is able to detect important differences between them, one being that in gastrorrhœa, there is burning pain in the stomach prior to the "rumination" of the fluid, which is hot and acrid, whereas in pyrosis there is no pain, and the secretion is insipid ; another being that, in the former complaint, the discharge is from the "follicular glands of the stomach," and, in the latter, results from disease of the "terminal exhalants ;" whilst a third is a mere general distinction, to the effect that "pyrosis is a disease of *serous* temperaments ; stomach gleet of pituitous." To say that pyrosis is not attended with burning pain is to have no regard for the very name by which it is distinguished, or for one of its most prominent features ; and, as respects the sensible characters of the secretion, it is well known that the pyrotic fluid varies in different cases, and even in the same persons at different times. It is nearly always alkaline ; occasionally acid ; generally insipid, but sometimes hot and acrid : therefore it cannot be allowed to have the uniform qualities which the present author wishes to assign to it.

It is all very well to assume it to be an atonic effusion from "the serous structure of the stomach, in lax and lymphatic temperaments," but this is at the best but a loose way of talking, which conveys no precise idea to those who are not obliged to imagine particular pathological conditions for the confirmation of particular views. The same may be said of the physiological opinions with respect to the filtering powers of the stomach, by which noxious agents are allowed to "percolate" its coats, and so to "depurate the blood," by casting off certain excrementitious matter in the

same way as is effected in the kidneys by the secretion of urine. Those who want to know how this comes to pass, and what connection it has with pyrosis, may read all about it at p. 38.

Of the "post-mortem degenerations," as our author terms it, we have little or nothing, for he declares that "it is difficult to appreciate the pathological phenomena," and again, that "these must be rather a matter of conjecture than of history." Still, after so much had been said of the "pathological condition" of the parts concerned in this affection, we were not prepared for such a confession; we quite expected to be told that there was something more than "a mucous surface unusually pale," for as the disorder had been considered in an unusual point of view, with a special reference to certain essential organic changes, we looked for a corresponding account of the morbid appearances, as the groundwork on which the theory was built; all we have, however, on this head is as follows:—

"The appearances of the stomach in true water-brash would only indicate a state of adynamic droopy of that organ, just as a pale skin in cold sweats indicates a similar condition of the cutaneous tissue." 46.

We now come to that part, wherein the chief practical object of the author is expressed, consisting of an exposition of the dietetic causes of the malady; and the subject is ushered in by the following paragraph in italics:—

"Chemical and chemico-vital remarks on the non-azotic or not sufficiently azotic constitution of the aliment usually consumed by the population in districts where Pyrosis is frequent." 49.

These chemical and chemico-vital remarks then are intended to prove, "that the steadily and constantly depressing influence of a humid cold atmosphere, on the periphery of the circulation, and slight but successive and daily repeated poisonous impressions made upon the internal digestive tube, are the joint agents which induce this malady."—(See p. 49.)

With this theory for the basis of his remarks, the author runs on through two dozen pages, occupied in shewing how these causes combined operate upon the "serous structure of the stomach," and the system generally, so as to produce pyrosis: and that the poor, whose diet is principally farinaceous during many months of the year, especially in particular localities, and who are necessarily exposed to the depressing influences of cold and damp, are found to suffer from it in proportion. The prevalence of dyspeptic disorders, among the poorer classes, is certainly very remarkable, and possibly would not be anticipated by those who have been in the habit of ascribing them to a too luxurious system of diet; there is probably then a good deal of truth in our author's remarks on this subject, although there can be little doubt that he carries the thing somewhat too far. We may believe, that a state of parts approaching to chronic gastritis, is the real pathological condition in the majority of these dyspeptic cases; but the exciting cause may reasonably be surmised to have its origin in unsuitable food, combined with the absence of those domestic comforts, the want of which are alone a fertile source of disease. In fact, all the forms of dyspepsia have always been set down, as occasionally arising from this cause, and we think it scarcely to be doubted (particu-

larly by those who have practised among agricultural poor) that the constant use of aliment, not sufficiently nutritious or diversified, that is to say, of course, badly prepared farinaceous food, only varied at long intervals, by the most indigestible of the animal substances, is the great cause of the prevalence of these disorders among them. Whether, however, this kind of diet produces essentially the kind of pyrosis which is the subject of our author's treatise, is quite another question, and we must first admit the accuracy of his views upon it before we can agree that it is so. It is to be borne in mind, however, that the author attributes the disease to certain injurious impressions upon the external cutaneous surface, as well as to the direct application of poisonous agents from within: it is the union of cold and damp with this poverty of diet, that induces the disorder, and it is for this opinion that the author claims the merit of originality.

"I scarcely know of any writer, foreign or domestic, who has not attributed the prevalence of the malady to a poverty of diet, although most of them have overlooked the fact, that a mere farinaceous diet in a tropical climate is not sufficient to produce the disease to any considerable extent." 54.

Again, he says—

"Let it be lawful to me to speak the truth without presumption. What assistance does the medical literature of Greece and Rome furnish to me in my investigation of this distressing malady? Absolutely none; and manifestly because such genial climates were not calculated to produce it." 75.

Yet the books of the great Roman physician are full of peptic precepts, and if we recollect rightly, there is a chapter also, "*de Cardiacis*," where something like a hint of our author's own theory is given.

The treatment recommended by him is for the most part dietetic, and since he insists that his peculiar form of pyrosis is essentially a malady of the starving poor, he urges the wealthy and benevolent to exert themselves in procuring for them a regular and sufficient supply of good animalised food, with warm cottages, and those general comforts that will ensure them a permanent relief from mental anxiety! This would indeed be desirable under any circumstances; but, unless the golden age were to return, we do not see how it is to be accomplished: let us hope then that the evil may be remedied without any such miraculous interposition being necessary.

We quite think that it is the bounden duty of medical men, to represent in a proper manner to the proper authorities, the existence of anything which is ascertained to be injurious to the health of the community: but such representation should not be founded on mere speculation, and the plan suggested for the amendment of the evil ought at least to be of such a kind, as will admit of a practical application; as society is at present constituted, however, the recommendation of Dr. West could not be carried out, even if it were generally looked upon as judicious.

According to our author, the treatment to be pursued is based on the following indications:—

"1st. To provide azotic food in order that the blood of the patient may be more highly animalized.

2nd. To increase steadily the vigour and heat of the circulating system, especially in the capillaries of the surface.

3rd. To give new tone and fresh impulse to the absorbent system." 105.

During the discussion of these indications, the author very absurdly inveighs against the apathy exhibited by the generality of town doctors, or those who practise exclusively among the rich, in relation to this disease; he declares over and over again, that such gentlemen know nothing about it, or if they do, that they have neglected to do anything towards its alleviation, because it happens to be a disorder, which is not met with among their favoured class of patients; thus, speaking of Sydenham, he says—

“Not one word has he placed on record concerning this malady. And why? He lived in our metropolis. He never practised any where else; and, like many of our modern great ones, he delighted in narrating cases commencing with ‘*Vir nobilis*,’ ‘*Comes*,’ ‘*Mulier magni nominis*,’ &c., &c., shewing that in the sphere of his practice he had but little chance of seeing an affection which exclusively belongs to the badly fed and miserably paid rustic, or to the provincial labourer.” 78.

Then, a page or two further on, he launches forth into a style of invective which is altogether inadmissible in sober argument: for instance—

“It is not to authors (however great their talent) who have avowedly written for the rich and lazy, that we can look with any well-grounded expectation of suitable admonitions to lessen the miseries of patients suffering under this species of malady, for with some few exceptions, as an idiopathic disease it belongs exclusively to the poor.” 80.

As a matter of course the guardians of the poor come in for their share of animadversion; we wish it was quite certain that they never deserved it. The author is speaking of the public officers of health, who existed in ancient Rome, under the name of “*Ædiles Cercules*,” and laments that, in our days, their very important duties are usurped by men who are very incompetent to perform them; he then proceeds:—

“In our time, guardians, committee-men, or overseers claim to decide on the laws of dietetics, although their knowledge of the human frame barely extends beyond a vague idea that man is a tube of some sort open at both extremities. It has been argued by the friends of such a system that the medical officer has the privilege of presenting to a board of guardians his recommendations for the occasional introduction of such articles of nutriment as may to him seem best suited to meet the occasional exigencies of disease. It is not quite so evident that he has the moral certainty of seeing his recommendation carried into effect.” 100.

From all that has been said then, it may perhaps be guessed that Dr. West assigns very little efficacy to the mere administration of medicines in this disease: but it may again be as well to let the author speak for himself on this point.

“We may try to rectify secretions, to brace up and fortify the stomach, but unless we can supply good wholesome food, animal and vegetable, together with warm clothing, a dry habitation, and the peace of mind which is the attendant upon a cheerful confidence, or at least a good hope, of a continuance of a comfortable ‘daily bread,’ all our measures will fall short of relief, and our pills and potions, our chemicals and our galenicals, will be a miserable mockery, a wretched satire upon that half science and half art which Cicero denominated ‘*God’s second cause of health*.’” 79.

After such a tirade, we should imagine that the author would not con-

descend to mention any mere medical remedies ; and in fact he speaks slightly of most of those which have long been acknowledged to have considerable power over the disease. Thus, according to him, bismuth is of no use whatever excepting in spasmodic dyspepsia ; opium, "for true pyrosis as defined and explained in our account of it is decidedly injurious, rarely palliative, and never capable of effecting a cure." (p. 101.) Blood-letting in any shape, "in the popular affection of which we treat is decidedly mischievous," (p. 101), whilst *nux vomica* he will not incur the responsibility of recommending, but declares that, unaided by proper diet, it is good for nothing, and with it is quite unnecessary. Nevertheless in an "Appendix Medicaminum" he gives eight formulæ which he thinks merits recommendation ; and as well as these, bark, quinine in sherry, warm balsams, and "spiced port wine," are favourably mentioned, though none even of these have any permanently curative powers unless assisted by a duly azotized diet.

The mineral acids are not even mentioned, neither is there much more than a passing allusion to hydrocyanic acid, or to creosote, all of which we would advise our author to try : and as a substitute for formula No. 2, which consists of nine different ingredients, we venture to recommend the following to his notice :

℞. *Liquoris Calcis*, ʒvij.
Spt. Ammon. Aromat. ʒss.
Tinct. Hyoscyami, ʒss.
Magn. Carbonat. gr. xx. M.

Haustus—bis quotidie secundus.

With this our remarks must close, wishing however, that the first parts of Dr. West's treatise had been more practical, and the last part more temperately written.

A PRACTICAL ESSAY ON SOME OF THE PRINCIPAL SURGICAL DISEASES OF INDIA. By *F. H. Brett*, Esq. M. R. C. S. L. Bengal Medical Service, Surgeon to the Right Honorable the Governor General's Body Guard. Calcutta, 1840.

THE plan, an useful one, of this work is to treat of all the *surgical diseases* met with in India. As these must, in the main, resemble those of other portions of the world, we must be excused from going through them systematically. All we can do is to select such passages as contain interest or instruction in regard to diseases incidental to the East.

The European Constitution in India.

An *European* on his arrival in India is generally in the highest state of plethora. By such a system of stimulating diet he seldom escapes a severe attack of inflammation shortly after his arrival. Mr. Brett points out the want of a medical superintendent of Cadets. They commit the most se-

rious errors of diet and of regimen. The consequence is an attack of illness. On convalescence, the cadet renews the same habits, and he arrives in the upper provinces with his health restored. For the first few years of his residence in India he becomes in high condition especially during the cold season. (We allude particularly to officers and civilians.) But his system, both vascular and nervous, is under a constant state of excitement, from the continued in-pouring of nutriment, stimulation and high temperature, and he labours under plethora from *repletion*, as well as plethora from *diminished secretion*. He is on the precipice of disease, and a slight impulse is sufficient to destroy the balance and precipitate him.

Should he survive the repeated attacks to which he is liable his constitution becomes enfeebled, his appetite impaired, his energies diminished, the secretions and excretions scanty, and the skin dark, harsh and dry. He is perhaps dyspeptic, and, in a word, his system becomes lowered down to the climate, and he is no longer recognizable as the energetic active European. His muscular system is much reduced. He is the "dried up Indian," with habits and constitution scarcely adapted for his native land. On the other hand, should his constitution still remain of the plethoric tendency, he is gross, corpulent and flabby.

Mr. Brett eulogises *gymnastics*. If Europeans, he remarks, cannot adapt their mode of life to a tropical climate, but must indulge in habits totally incompatible with such a climate, they should at all events endeavour to convert their food into wholesome nutriment, and preserve the robustness of their frames by practising athletic exercises, in the cool of the day, and wrestling in imitation of the Puhlwans. It is indisputable that these individuals enjoy an immunity from disease, unknown by others. There are none whose constitutions resist the exciting causes of disease so well, although their blood is abundant and their vascular system vigorous. The few Europeans who have entered thoroughly into the spirit of these exercises return to their native land with vigorous constitutions capable of really enjoying their native country.

The writer has long admired and practised the calisthenic exercising of the Asiatics, and attributes a better state of health and stamina, and a capability for active pursuits, far superior to that enjoyed by him in England, to a systematic use of these exercises.

In the Governor General's Body Guard there is a very good specimen of a gymnasium amongst the troopers, some of whom are very well developed athletics, among the old and most respectable hands.

The gymnasium of the Asiatics much resembles that of the ancient Greeks, first introduced at Lacedæmon. The Hindoos perform these feats in imitation of Ram, the deity of war and victory. They have the "Palæstra" (Ukhara) for wrestling and other feats of agility, the Conistereum or conistra, in which they cover themselves with sand or dust, and the stadium for spectators. There is likewise the gymnasiarcha, (Khuleefa) who is the director and superintendent of the whole elected by general consent for superiority as having vanquished all the rest: the Zystarcha who presides in the Zystus or stadium. What originated in the early establishment of society for the purposes of acquiring strength and dexterity in repelling an enemy, became converted into a part of medical regimen when luxury and idleness reduced them to the sad necessity of applying

to physicians, who referred them to the practice of gymnastics as a preservative, as well as a means of re-establishing health.

The "Moogdurs" the "Dund'h" and the "Lézum," are the best kind of exercises for general use in India, though it would be well for a young man to go through the whole system at first under a regular "Puh,lwan," and afterwards continue the Moogdurs, Dundh and Lézum in moderation, as a high degree of artificial training may be carried too far; excess, even in what is good, is to be avoided. Nothing is so conducive to a perfect capillary circulation, to the healthy action of the liver and of all the secretions, the tone of the stomach and the sthenic state of the nervous and muscular system, enabling us to bear up against a long and sultry day. Friction and shampooing should not be omitted.

The Romans carried these athletic exercises to their utmost pitch, accompanied by all the state and magnificence of wealth, but it participated in the general downfall of that empire; and until recently the association of medicine with gymnastics was not renewed in Europe.

Moderate stimulation is requisite to the European in India, water drinkers are not observed to be the healthiest people.

Sloughing of the Cornea from imperfect Nutriment.

Instances of this description, illustrating the celebrated experiments of Majendie, occurred amongst the prisoners in the jails of Mooradabad, Shahjehanpore and Cawnpore. These unhappy creatures were subject in the highest degree to every debilitating cause. Imperfect nourishment, their aliment possessing neither diversity, nor multiplicity of ingredients, impure air, especially confinement at night in closed wards surrounded by high walls, excessive heat in the Summer, severe cold, and great range of temperature in the Winter months, fatigue and mental depression. Many of these were exposed to an endemic dysentery, under which if they did not succumb, they became reduced to the very lowest ebb of debility, torpor and apathy. Almost all the secretions were suspended excepting that of the mucous membrane of the bowels. Their tongues were pallid, their extremities shrunk, and the surface of the whole body cold, even in Summer. There was no cutaneous transpiration.—Their eyes were glassy. Under this inflammation of the conjunctiva occurred, an ulcer formed on the cornea, which speedily sloughed and penetrated the whole of the layers, followed by an evacuation of the humors of the eye. It was particularly remarked in *all* the cases, that there was *no pain*. There was increased secretion from the Meibomian and lachrymal glands, and suppuration of the conjunctiva. The anterior chamber became filled with a muddy purulent fluid. The ulcer of the cornea sloughed, the lens became evacuated, and the eyeball of course collapsed. Both eyes were often affected, and the patient generally expired in an extreme state of emaciation.

Advantages and Disadvantages of Operating for Cataract, when one Eye is Affected.

Mr. Brett presents a sort of table of the pros and cons of this important question. Our readers may like to glance over them.

No. LXX.

C c

Objections, 1st.—One eye being sufficient for the purposes of life, why therefore subject the patient to the pain and inconveniences attending the operation?

necessary to anticipate the disease in the second eye, by endeavouring to restore the sight in the eye first attacked.—2nd. Many people have a strong as well as a weak eye, and the former more frequently becomes diseased.—3rd. Obscurity from sympathy and habit, often results from a patient becoming blind of one eye; especially when first accidentally discovered by him on his closing the sound eye.—4th. The sphere of vision with one eye is considerably less than with two.

Objection, 2nd.—Great inconvenience has occasionally resulted from confusion of vision, occasioned by the different refracting power of the two eyes, one possessing and the other not possessing the crystalline humour. in answer to the 1st objection would the extreme anxiety of the patient in the anticipation of the disease ensuing in the other is a strong inducement for operating.—4th. The length of time likewise for the patient to wait until he becomes blind in both eyes, seems a needless delay, and painful state of suspense, seeing the period may vary from a few months to many years.—5th. *The diseased eye, favourable for operation, may become unfavourable*, first by accident, secondly, by inflammation of an acute or chronic character, adhesion to the iris, &c. *Amaurosis also sometimes follows from delay*, and change in the consistence and volume of the lens produces sometimes internal inflammation, and also absorption of the vitreous humour which an early operation might have prevented.

Objection 3rd.—An eye which has undergone an operation with every success, never obtains that perfection of vision which is possessed by a perfectly sound eye.

to his having any vision at all, seeing that the sound eye becomes generally blind. Moreover, the advantage of vision even with a glass, is preferable to blindness without, in that eye, in every respect.

Objection, 4th.—When only one eye is affected, the operation has not such a brilliant effect, and the patient is seldom satisfied.

A few additional arguments in favor of operating may be adduced, but these are not of universal application, viz. 1st. The patient may have originally laboured under short sightedness (Myopia). Some of these patients see better after the operation than they did before, or than with the other eye.

2nd. Patients of an advanced period of life, who become affected with presbyopia, becoming affected with cataract, often see extremely well after the operation with the use of glasses.

Arguments in favor of Operating.

—1st. When one eye is diseased, blindness must almost necessarily follow by the formation of cataract in the other eye. Ergo, it becomes

necessary to anticipate the disease in the second eye, by endeavouring to restore the sight in the eye first attacked.—2nd. Many people have a strong as well as a weak eye, and the former more frequently becomes diseased.—3rd. Obscurity from sympathy and habit, often results from a patient becoming blind of one eye; especially when first accidentally discovered by him on his closing the sound eye.—4th. The sphere of vision with one eye is considerably less than with two.

Arguments in favour of Operating.

—1st. Confusion of vision is not always or even generally the result of the operation.—2nd. Supposing that confusion of vision generally did occur, the arguments

equally apply to this.—3rd. Again, the extreme anxiety of the patient in the anticipation of the disease ensuing in the other is a strong inducement for operating.—4th. The length of time likewise for the patient to wait until he becomes blind in both eyes, seems a needless delay, and painful state of suspense, seeing the period may vary from a few months to many years.—5th. *The diseased eye, favourable for operation, may become unfavourable*, first by accident, secondly, by inflammation of an acute or chronic character, adhesion to the iris, &c. *Amaurosis also sometimes follows from delay*, and change in the consistence and volume of the lens produces sometimes internal inflammation, and also absorption of the vitreous humour which an early operation might have prevented.

—Such imperfection is remedied by the employment of good glasses; and the question is not as to the patient being short-sighted, but as

to his having any vision at all, seeing that the sound eye becomes generally blind. Moreover, the advantage of vision even with a glass, is preferable to blindness without, in that eye, in every respect.

—Such a consideration is not of sufficient weight against the preceding arguments.

Arguments in favor of Operating.

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to his having any vision at all, seeing that the sound eye becomes generally blind. Moreover, the advantage of vision even with a glass, is preferable to blindness without, in that eye, in every respect.

Arguments in favor of Operating.

—Such a consideration is not of sufficient weight against the preceding arguments.

3rd. Beer and others are of opinion that from the great sympathy between the two eyes, the morbid action of the sound eye may be prevented by the removal of the complaint in the diseased eye. But satisfactory cases in illustration have not been adduced. It is contrary, I should say, to general experience.

4th. The patient being young, a soldier, &c. are among the minor inducements for operating.

Indian Operation for the Stone.

The patient was seated on the lap of an assistant, with his back towards the assistant's face. The hands were secured under his hams, the thighs being bent at the acutest possible angle, and the knees likewise.

The operator commenced by kneading the abdomen, with his hands, well lubricated with oil, and pressing the bladder, moderately distended with urine, from the hypogastric region, downwards towards the outlet of the pelvis; and keeping up the pressure with his right hand, he introduced the fore and middle fingers of his left hand into the rectum, as deep as possible, grasping the stone behind the base of the prostate gland, and drawing the stone to the perineum, where it made a distinct projection.

A *packing* needle was then employed, by plunging it into the perineum, striking the stone, and removing all doubt of the presence of the calculus in perineo, before attempting any incision. These efforts were attended with a considerable deal of dragging and distention of the internal parts.

Inclining the patient more towards the horizontal, he now commenced the incision a little to the left of the raphe, making repeated and hesitating cuts. Mr. Brett introduced a sharp scalpel into his hand and induced him to enlarge the incision considerably. When he had so done he passed the hooked extremity of a vectis behind the stone, and by a digging effort, and applying the power to the handle, using the arch of the pubis as the prop, he, by main force, started out the stone, breaking it, however, into a number of pieces; the calculus was soft, of the friable description.

Mr. Brett adds :—

"I endeavoured to mitigate the sufferings of the patient by all the suggestions I could make, and had I not insisted on larger and bolder incisions being made, or allowed the vectis to be introduced until they were completed; or had I not checked his hand when using the latter to force out the stone with great violence, fatal consequences, perhaps, might have ensued. The European instruments were shewn him, and he acknowledged their infinite superiority. A native operator confessed that the average mortality was 40 per cent." 503.

This work will prove extremely useful to our Indian brethren, and more particularly to the natives now brought up as surgeons.

OBSERVATIONS ON THE SURGICAL PATHOLOGY AND TREATMENT OF ANEURISM, BEING THE SUBSTANCE OF A COURSE OF LECTURES ON THAT DISEASE. Delivered in the School of the Royal College of Surgeons in Ireland during the Session 1839—40. Part I. By *William Henry Porter*, A. M. &c. &c. Octavo, pp. 214. Dublin, J. Porter. 1841.

MR. PORTER informs us that this book had its rise in the following manner :—

“ A short time previous to the Winter session of 1839-40, some cases of aneurism occurred under my care in the Meath Hospital, attended with unusual symptoms, and followed by important, and, in some respects, unexpected results. It became, of course, my duty to endeavour to explain the nature of these cases to the pupils attending the institution ; a task which I found to be attended with more difficulty than I could have anticipated, in consequence of the vague and indistinct ideas entertained by many of them as to the pathology and treatment of even the simpler and more ordinary forms of the disease. It seemed, indeed, to be the prevailing opinion that aneurism consisted in some particular lesion of an artery, to be cured, if curable at all, by one particular operation, the only objection to such operation being the situation of the disease in a locality where the vessel leading to it could not be reached ; but, with respect to the existence of different pathological forms of the disease, and of the applicability of a suitable line of treatment to each variety, I discovered a good deal of incertitude or misconception. This deficiency, I confess, surprised me, when I reflected on the zeal and ability with which this branch of surgery has been of late years cultivated : but I found there was still something wanted, some short yet comprehensive arrangement, founded solely on pathology, connecting each variety with the operation or other treatment adapted to it, and explaining (or at least endeavouring to explain) the circumstances that so frequently mar the best concerted operations and accelerate a patient's dissolution.” vi.

And so these lectures originated. In the arrangement of his subject he has endeavoured to treat of aneurism in its generic forms, (as far as is practicable) independent of the proper and peculiar features that may attach to it in any particular locality—to describe the different pathological conditions that precede and are supposed to conduce to the formation of the disease—to connect these with the symptoms as they arise—and to point out the mode of treatment apparently suitable to each variety. Another object with him has been to endeavour to ascertain how far our curative measures may be insufficient, and our operations unsuccessful, and to explain (to the extent our pathological information will permit) the causes and circumstances that thus exert an unhappy influence on our practice.

The first subject on which our author treats is HÆMORRHAGE. We shall glance at any peculiar opinions he may entertain.

He seems to think the internal coagulum of little service. It never occupies, says he, the entire calibre of the vessel, and, consequently, cannot block it up mechanically ; and as its presence or absence depends on the distance between the wound and the next branch, it should follow, if it is instrumental in controlling hæmorrhage, that an artery divided close

to such branch would never cease to bleed. This is by no means found to be the case, and therefore are there grounds for believing that the existence of an internal coagulum is more or less accidental, and not in any respect necessary, or even important.

We do not quite agree with Mr. Porter upon this head. If the internal clot be unimportant, how comes it that hæmorrhage is much more *likely* to happen if it is not present. Most surgeons will admit the greater tendency, on the part of a vessel, to bleed, when injured near a collateral branch, than when away from it. That surely must depend in a material degree on the state of the internal clot.

Mr. Porter remarks, and justly enough, that lacerated arteries sometimes bleed furiously, the natural process of arresting hæmorrhage not being always efficacious. Not long since, a man was brought into the Meath Hospital, whose fore-finger was broken and lacerated in a steam-engine—he resisted amputation, and for two days this apparently trifling wound poured out blood with a violence absolutely uncontrollable. At length he submitted to the operation as the only means of saving him from bleeding to death; and from the clean incised wound thus made, not a drop of blood flowed—neither was it necessary to tie a single ligature. Very recently, in the case of a man whose arm was torn off by a steam-engine, the main artery of the limb hanging from the wound bled with a degree of violence that was nearly fatal before he could be conveyed to hospital. It appears, then, that the means adopted by nature to control hæmorrhage are not the same in this case as when an artery is simply divided by a cutting instrument, and that they are not uniformly brought into operation; but as these means are not understood, neither is it possible to explain the causes of the different phenomena that occur under circumstances so apparently similar.

Mr. Porter inquires into the method by which a notched or punctured artery heals.

“Are the processes just described the same by which an artery that is only notched heals subsequently—or is it a matter of necessity that a vessel once opened in any manner must continue to bleed, unless its calibre is obliterated? On this subject I have met with a considerable diversity of opinion, and there has not been a sufficiency of evidence collected to decide the question satisfactorily. Many persons, for whose practical experience I entertain the highest respect, believe that an artery so circumstanced may heal without obliteration. Dr. Jones details three experiments, the results of which would show that the arteries of dogs, if only divided to the extent of one-third of their circumference, heal without their calibres being even diminished; but with reference to this point it must be remarked that the arteries of inferior animals do not, either in their physiological or pathological qualities, resemble those of man, and therefore, (to say the least of them,) all such experiments prove nothing in explanation of the process of repair in the human subject. Again, a case of aneurism, at the bend of the arm, and produced by the puncture of a lancet in bleeding, was treated by compression in Steven’s Hospital, and recovered; the artery remaining perfectly pervious through the entire of its course; but in this case the vessel passed in front of the tumour, and the only way in which a connexion between them could be explained was by supposing the lancet to have transfixed the vessel, the anterior wound to have healed, and the posterior to have formed the aneurism. But this is stretching imagination beyond probability—and it is far more likely that the artery which passed in front of the tumour was the

radial which came off, (as it frequently does), very high up, whilst the ulnar, occupying the usual situation of the main trunk, had been wounded, and the aneurism, in increasing in size, pushed forward the radial on its surface. Under all circumstances, however, and fortified by the uniformity and simplicity with which nature performs her operations, I freely acknowledge that I do not believe a wounded artery ever heals unless by obliteration. Already it has been shewn that in an open and patulous wound, a notched artery will bleed to a terrific extent, merely because it cannot retract, and a coagulum cannot be formed. I have known death to be the result of such a wound of the *anastomotica magna*, near the condyle at the elbow, in a case that was left without assistance." 19.

Mr. Porter passes from the physiology of hæmorrhage to the treatment of it. Speaking of compression, he says :—"a graduated compress is to be placed exactly over the aperture in the bleeding vessel, and secured there by a bandage, rolled so evenly, that no one part of the limb is subjected to greater pressure than another; and so firmly as to lay the opposite sides of the vessel fairly in contact, but, at the same time, occasion as little pain as possible. This is generally accomplished by a comparatively moderate degree of pressure, and I believe the important point to be attended to is the evenness of the bandage rather than the force it exerts. In the arm, for instance, which is frequently the seat of this operation, in consequence of the artery being punctured by an awkward and ignorant phlebotomist, the bandage should commence with the fingers, each of which should be rolled separately and firmly, it must then be carried evenly up the arm, and terminate a short distance above the position of the compress. The arm should then be laid upon a pillow, and the patient receive the strictest injunctions not to attempt to move it. For some hours the case will require the most watchful attention on the part of the surgeon. If there is no increase of pain, or throbbing, or other uneasiness, the compression will probably succeed, and I believe many an individual has had the brachial artery opened without ever entertaining a suspicion that he had been exposed to so much peril: if there is this increase of pain or tension, the arm must be opened and examined lest bleeding should be going on internally."

Mr. Porter, of course, enjoins our chief dependence on the ligature. And he gives a hint which might be taken on some occasions with advantage. In order, he remarks, to secure an artery that has been perfectly divided, each segment should be seized with a tenaculum or forceps, gently drawn out from the surrounding cellular tissue, and held whilst an assistant ties up the mouths of the vessel with a round ligature properly prepared. In every instance, with one exception, the vessel should be completely insulated, and nothing but itself included within the cord: that exception having reference to the arteries of old persons which have become rigid and contain a quantity of earthy deposit, and are apt to break off during the operation of seizing and drawing them out. This may render it excessively difficult to secure such a vessel, and, in such a case, it will be advisable to include some of the adjacent softer tissues, (always excepting a nerve or a vein, which, under every disadvantage, ought to be avoided,) and the patient thus treated, in general, progresses very favourably. From inattention to this precaution, Mr. Porter has more than once seen great difficulty and delay in securing the arteries of a stump after

amputation, and the operator at length obliged to resort to deep plunges of the needle.

Mr. Porter enumerates the different varieties of aneurism, inserting amongst them one with which our readers may not be familiar.

"There is a pathological condition of an artery producing all the symptoms of circumscribed false aneurism, and apparently curable by the same means, which, as yet, has only been noticed and described by myself in the *Cyclopædia of Anatomy*. It seems to be formed by a dilatation of the fibrous and cellular coats, and the absorption of the internal lining. It appears to be so far a true aneurism as that the artery is uniformly dilated around its entire circumference, and it is so far a false one, that the internal lining membrane has been removed. I know not how to form a name for such a complex aneurism." 34.

Mr. Porter devotes some little attention to the causes of aneurism. He adverts to certain facts that he has made out.

1. It is a disease unknown to early life, not, (as far as I know,) having been observed antecedent to the age of puberty, and although old age is not absolutely and completely free, it is comparatively rare at that period; from an aggregate of thirty remarkable cases operated on, I find the average to be thirty-three years and a half.

2. It is much more frequently met with in males than in females: this is remarkably proved in cases of internal aneurism, but still more so in the external. I have made the most extensive inquiries on this subject in my power, and can find but one surgeon in Dublin who ever operated for the cure of popliteal aneurism in the female.

3. Arteries are liable to aneurism with a frequency nearly in proportion to their size: thus the most common seat of all is the aorta: and, again, particular parts of these are more liable than others, aneurisms usually having their seats where the arteries are curved or bent, or where a branch may happen to have been given off.

Mr. Porter adds:—

"Seeing, then, that aneurism is at least negatively subject to certain laws—that it is not met with in animals—that it is not met with in the human subject before the age of puberty, and rarely in the female at any age—and that it prevails in the larger arteries, we must seek some explanation of its existing cause that will be consistent with these facts. But first it may be necessary to make a few remarks on the causes usually assigned. It is said that certain laborious trades and occupations predispose to aneurism, but this opinion cannot be supported. If it be meant that such persons are more exposed to injury, and that direct violence may sometimes rupture an artery, this is as easily understood as that a person working in the neighbourhood of a steam-engine will be more likely to be entangled therein, and have a limb torn off, than a person at a distance from it; but this is only accidental, and by no means a particular liability to disease. I cannot believe that any degree of labour, or exertion, or exposure, predisposes to the occurrence of aneurism; first, because the most laborious people in society, sailors, blacksmiths, porters, &c., are not a whit more liable to the disease than any other classes in the community: secondly, because women in the lower ranks of life are, in many instances, obliged to undergo more labour in proportion to their strength, than men—and boys and children infinitely more so; yet we have seen the exemption that these classes enjoy: and, thirdly, aneurism is not more prevalent among the poor and laborious than among the rich and idle, in proportion to the relative numbers of these classes respectively. This latter assertion is so opposite to the generally received opinion, that many will be

inclined to disbelieve it, and its truth cannot be proved for want of statistic reports; I have made it, however, from my own observation, and would appeal to any practical surgeon of experience for its corroboration. Again, it has been stated that particular trades and callings, chiefly such as oblige their followers to keep their limbs in a bent posture, predispose to aneurism, and this is explained by the idea of the blood being forcibly impelled against the side of the vessel, in consequence of such position. Hence the prevalence of the disease amongst coachmen, postilions, horse-soldiers, &c. But there can be no doubt that other persons are equally, if not more, exposed to such influences, in whom the disease does not prevail—studious persons, and the higher orders of females, for instance: but with reference to trades, we may recollect that tailors spend most of their time in a very contracted position, and yet no one ever considered them as peculiarly predisposed to aneurism. I cannot, therefore, admit any of these as creating a predisposition to the disease.” 39.

We confess that we are startled by this reasoning of Mr. Porter's. So far as we have seen, we should say that aneurism is more frequent amongst the laborious than the indolent classes of society. And so, we believe, are those alterations in the coats of arteries that lead to aneurism. This seems to us a matter of fact. As a matter of reasoning, it is consistent with all physiological probability that diseases of the arterial system should be most rife in those whose vessels are exposed to most wear and tear. The argument deduced from the infrequency of aneurism in women and in children appears to tell rather against Mr. Porter than for him. Women certainly do not make such violent exertions as men, nor do children. And as such exertions tell rather by their cumulative than direct effect, we should scarcely expect aneurism in the hard worked boy, though we might fairly look for it when that boy has become the broken down man.

Mr. Porter thinks that the condition of the arterial tunics which induces aneurism, or disposes to it, is unhealthy inflammation of the tunics. By this their qualities of elasticity and contractility are greatly diminished, and they will yield and become distended under the ordinary force of the circulation; hence we may understand how some of the pathological conditions of the artery come to be produced. First, the vessel may be rendered distensible throughout its entire circumference and thence dilated all round, in such a manner as to have acquired the name of *fusiform* dilatation. An artery, however, in this state cannot be considered as aneurismal: the blood circulates through it during life, and no portion of it is coagulated or withdrawn from the system. After death, indeed, a coagulum is always found within it—an additional proof, if such was wanted, that its contractility was impaired and weakened. But one spot of this fusiform dilatation may be weaker than the rest; and if so, it will be likely to yield, become dilated, and a true aneurism thus be formed, in which blood will be arrested and coagulated during life.

Mr. Porter, then, is satisfied that unhealthy inflammation is one of the most influential of the exciting causes of aneurism, and he has been led to the conclusion that intemperance, particularly in the abuse of ardent spirits, and repeated or ill-conducted courses of mercury have, at least, some intimate connexion with it. This latter medicine is seldom used in great quantities, or for any protracted length of time, unless for the cure of syphilis, and hence many have entertained an opinion that arteritis might be a result of the operation of the venereal poison. We are in-

clined to imagine that intemperance and abuse of mercury predispose to aneurism as to many other diseases, by impairing the general constitutional powers. Local or accidental circumstances determine the particular malady that shall ensue.

Mr. Porter passes to *Internal Aneurism*, the symptoms and diagnosis of which he first considers. He offers some suggestions on the latter head which we may notice. A gland, he says, or other tumour, receiving an impulse from an artery, is merely lifted up, and the pulsation is only felt at the apex—often by drawing it away from the vessel the pulsation ceases altogether: an abscess receives only an undulatory thrill from an artery, perceptible in the line of the vessel, but fading away and becoming indistinct in the remoter parts of the tumour: but the expansion of an aneurismal sac is equal in every part and every direction, and the pulsation can be felt as correctly at the base or at the side, as at the summit. Occasionally some tumours of a medullary or other fungoid nature exhibit a pulsatile character, and, if they occupy a situation in the course of a large artery, are liable to be mistaken for aneurism—indeed the resemblance is sometimes so great as to render a diagnosis extremely difficult. Nor will the position, growth, or direction of the tumour be sufficient to determine the point in question, for we know that aneurisms are uncertain in these respects, and may present themselves in very unusual and unexpected situations. He has known a popliteal aneurism, for instance, to appear on the front of the leg, beneath the knee, and it was curious that, at the same time, he had a patient in hospital with a fungoid tumour in exactly the same situation that exhibited a decidedly pulsatile character. He thinks the pulsation of a fungoid tumour is less forcible, less distinct, less *prononcée*, (as the French would term it,) than that of aneurism. But he has heard of cases in which the diagnostic symptoms were so obscure as to occasion considerable embarrassment to very acute and sagacious practitioners. Hence the necessity of making the most rigid investigation of every particular connected with a tumour of suspicious nature, for we shall find hereafter that aneurism is a disease in which even a trifling error may give rise to formidable, if not fatal, consequences. On applying the ear or a stethoscope to an aneurismal tumour, a peculiar sound, termed by the French the *bruit de soufflet*, is often, indeed generally, heard. It conveys the impression as if a rush of air took place into the sac at each pulsation; but as it is impossible to convey any idea of it by description, the practitioner must seek to render himself familiar with it: still, however, it is not pathognomonic, for the fungoid, or indeed any tumour situated on an artery will produce it, and it may be created by artificial pressure. It is almost needless to add that the mistake of confounding aneurism with fungoid tumour has been committed by the best surgeons, and is too easily made.

Mr. Porter runs over the sites of internal aneurism. He has seen one within the cranium. It was about the size of a small bean, in the basilar artery, the coats of which contained the same kind of earthy deposition that pervaded all the other arteries in the body, and which, therefore, must have been formed by dilatation only. The subject had been a man of some consequence, who suffered greatly from, and eventually died of, urinary disease. During life he exhibited some derangement of the cerebral

functions, which was attributed to sympathy with the bladder—he became absent, totally forgetful, listless, sleepy, and almost comatose; finally he died, and this little aneurism was found, the rest of the contents of the skull being perfectly normal and healthy.

Speaking of thoracic aneurism Mr. Porter observes, what we fear is too true, that there cannot be a doubt that many cases have occurred, in which “the stethoscope discovered no sign of disease in the heart or aorta,” nor can this be attributed to careless examination, or want of competence in the auscultator; for no later than the past winter, a specimen of aortic aneurism was *exhibited*, which, during life, had been mistaken by more than one, and treated as pulmonary consumption. Yet it often affords valuable information even in cases of this kind. Mr. Porter adduces the following as symptoms of thoracic aneurism. There is generally some irregular action of the heart—irregular is the only word that can be used; for, in this respect, there are almost endless varieties—sometimes it is wonderfully increased—there are palpitations, faintings, and other symptoms usually considered as indicative of the existence of organic disease in this viscus: sometimes the heart’s action is regular on ordinary occasions, but becomes strongly excited by walking up stairs, or any similar exertion: sometimes there is absolute intermission; but a very frequent, and, Mr. P. thinks, characteristic symptom is a want of accordance between the heart and the arteries in one or the other of the superior extremities, the heart beating violently, whilst the pulse in one arm may be scarcely perceptible. If the aneurism be previous to the giving off of the left subclavian, it may naturally affect the pulse at the wrist, but such aneurism can generally be recognised by auscultation. If the aneurism arises subsequently to the origin of the subclavian, when it is most difficult of discrimination, we do not see how it should occasion a difference between the pulse at the wrists.

One of the most curious features of thoracic aneurism is where it simulates acute laryngitis, in consequence (as supposed) of some pressure exercised by the tumour on the recurrent nerve. Mr. Porter relates an instance of this not *very* uncommon occurrence. As it is usually productive of embarrassment in practice, we shall introduce it.

“In July, 1837, I was requested by a professional friend to see a patient of his suffering from laryngitis, and, if I deemed it necessary, perform the operation of bronchotomy at once. It had been only of three days’ standing: the symptoms were dreadfully urgent and pressing—so much so, that I thought I had never met a more formidable case; and the idea of an aneurism never crossed my mind, as he had been attended by two physicians, one of them a most accomplished stethoscopist. I proceeded to operate without delay, and some notion may be formed of the urgency of the case when I state that I punctured the trachea with a trochar, rather than wait a few minutes for the purpose of controlling some hæmorrhage that was present. After the operation, which afforded immediate relief, the patient was removed to the Meath Hospital, where he died, suddenly, in three days afterwards.

The case had been one of aneurism of the superior part of the descending aorta, which terminated by bursting into the left pleura; and, as the difficulty of breathing had been relieved by the operation, I imagined it at the time to have been produced by spasm of the glottis, occasioned by pressure on the recurrent nerve. But I have since seen so many instances of spasm of this organ being

produced by remote influences, and occurring under circumstances apparently so little in connexion with it, that I am unwilling to refer it to this, or indeed any particular cause, except remote sympathy—an expression which will cloak ignorance under an appearance of science as well as any other.” 68.

With regard to *pain* as a symptom, Mr. Porter observes that he never knew a small aneurism not pressing upon any important tissue to be accompanied with any remarkable suffering, and instances are sufficiently familiar of patients having dropped dead in whom the existence of the disease had never been suspected, in consequence of their never having uttered a complaint. But it is very different when the tumour has attained a larger size, for then severe and lancinating pains are experienced, not only in the chest, but in parts very distant from it: thus patients complain of spasms, and stitches in the side—of acute soreness in the spine of the scapula—severe and constant headache, resembling hemicrania—and one of the most prominent symptoms is cramps in the muscles of the extremities, attended, occasionally, with great debility, amounting almost to a paralytic loss of power and motion.

As an instance of the devious course which thoracic aneurism occasionally takes, Mr. Porter mentions the case of a man who was admitted into the Meath Hospital, suffering from pains in the chest, and most of the rational symptoms of thoracic aneurism—these suddenly subsided, and were shortly followed by the appearance of a soft tumour in the left groin, not distinctly pulsatile, but evidently exhibiting a weak thrill. He died in three days, and on examination, an aneurism of the thoracic aorta was found—its sac had made its way downwards between the crura of the diaphragm, and had burst behind the peritoneum: the blood was then apparently conducted down along the psoas muscle and presented at the groin.

Amongst the signs of aneurism of the abdominal aorta, Mr. Porter, of course, discusses the “*bruit de soufflet*,” one always valuable, if not absolutely characteristic. And he alludes to a hypothesis and suggestion of Dr. Corrigan’s, ingenious if not satisfactory. Dr. Corrigan remarks:—“‘if an aneurism be in a constant state of distention, equally as the arterial trunk with which it is connected, then there can be no gush of a diverging current of blood into it; there can be no vibration of its parietes, and there will of course, be no *bruit de soufflet*.’ An aneurism of the abdominal aorta is peculiarly calculated for preventing the production of the sound in this manner, and the doctor purposes to remedy the defect by altering the patient’s position. ‘It occurred to me,’ says he, ‘that if I could relieve an aneurism of the abdominal aorta from this hydrostatic pressure, that keeps it constantly distended, thus preventing that gushing current into it which produces *bruit de soufflet*, this sign might become perceptible, and we should then be able, by its presence to diagnosticate aneurism of the aorta at a much earlier period than we have yet been able to achieve.’ He places the patient then in a recumbent position, whilst employing the instrument. The obvious objection to this explanation is, that it supposes an aneurism to be in a constant state of distention, which it never can be as long as it contains fluid blood, and its sac is capable of yielding to the force of the heart’s action: if it could be, the blood thus left in a state of repose would soon coagulate, and spontaneous recoveries be much more frequent and numerous than they are. The ob-

jection, however, is only theoretic, and with respect to the practical fact, I am quite aware that a bruit de soufflet may be heard in one position, whilst in another it may not."

Treatment of Aneurism.

Mr. Porter points out the natural modes in which aneurism may be cured—by inflammation and effusion of lymph within the artery—by gangrene—and by pressure of the tumour on the artery. Yet, says Mr. Porter, in the majority of cases, we seldom see one of them exemplified—the disease sometimes gradually subsides—sometimes suddenly disappears without our being able to explain the fact—and dissection has not hitherto satisfactorily developed the resources of nature in this particular. Mr. Porter is acquainted with a case in which an aneurism had proceeded so far as to have caused absorption of the sternum: the tumour pulsated externally with a violence that threatened its bursting almost momentarily; the patient lay on his bed, propped up with pillows, expecting nothing but the most miserable death; yet, without any obvious cause, and in despite of the prognostics of his attendants, the pulsation suddenly stopped, the tumour subsided, and he is not only alive but strong and active at this moment.

"A very interesting case occurred not long since at Stevens' Hospital: a man had an aneurismal tumour over the left clavicle, generally supposed to have been connected with the subclavian artery: various consultations were held upon the case, and operation was determined on when it was observed that the force of pulsation had somewhat diminished. I know not but that gentle compression might have been attempted, but the position of the tumour was so unfavourable that such treatment could have had no very decided influence on the disease; nevertheless, from day to day, the violence of the pulsation subsided—the size of the tumour diminished—and he left the hospital well.

I have seen one remarkable case of recovery which I scarcely know whether to designate as spontaneous or otherwise: it affords but little practical information, but is, nevertheless, too curious not to attract attention. In the month of December, 1831, I attempted to pass a ligature round the innominate for the cure of a very large subclavian aneurism, but failed, in consequence of the vessel being extensively diseased. The history of the case, and the steps of the operation, have been already detailed in the first number of the *Dublin Journal of Medical Science*, March, 1832, and therefore need not be repeated here: it is, however, interesting to state that the patient recovered perfectly. The aneurismal tumour disappeared entirely—the man's health and strength were so completely restored, that he was able to return to his former occupation, as a day-labourer in the country, and, I believe, he is alive and well at the moment in which I write. It is not reasonable to conjecture that the mere exposure of so large a vessel could have led to its obliteration." 77.

Mr. Porter insists upon a principle to be steadily kept in view in the surgical treatment of aneurism,—that it is a case of hæmorrhage, with the sole peculiarity that the blood which is withdrawn from the bleeding vessel still remains within the part or organ: the indication, therefore, to be fulfilled resolves itself into two parts—one, the arrest of hæmorrhage—the other, the removal of the effused blood. Now, it has been already seen that the first or immediate means by which hæmorrhage is controlled is by the application of pressure on the bleeding vessel—the second, or

remote, the establishment of such a degree of healthy inflammation within it as will lead to its permanent obliteration. Such are the principles which guide us in all our treatment, both medical and operative. As a means of pressure we look to the coagulation of the blood contained in the sac. This sometimes cannot be attained, or, if attained, is insufficient. And by this fact hang some important features of prognosis.

"The aneurism which pulsates violently, and is increasing with great rapidity, is extremely unpromising, for in such there is a large aperture leading from the artery into the sac, and a large wave of blood, at every pulsation, disturbing that which had been previously effused, and preventing its coagulation.

Aneurisms which are very soft, and in which the contents of the sac are entirely, or nearly, fluid, are not likely to be benefitted by any treatment. There are some idiosyncrasies in which the blood scarcely seems to have any tendency to become coagulated at all, and I have seen large aneurisms, the sacs of which did not contain the smallest portion of a coagulum.

An aneurism, seated amongst soft and unresisting structures, is not one from which very favourable results may be anticipated: for even if the blood becomes coagulated, there may not be a sufficient force to press the clot against the bleeding vessel. This may obviously occur to aneurisms within the thorax, and I will have occasion to shew a very interesting example of this cause of failure in an aneurism placed more externally."

Mr. Porter proceeds to discuss the principles of treatment in internal aneurisms—rest and abstinence. Of course he describes the method of Valsalva, and adverts to the idea and practice of Dr. Stokes, the object of which was to diminish the quantity of the circulating blood, and, at the same time, increase that of the fibrine within it. He recommended small and repeated bleedings, but a diet the opposite to Valsalva's: it should be light and very nutritive, but, of course, free from any material of a stimulating nature. Mr. Porter admits the difficulty of the question and adds:—

"From observation on different cases of aneurism, I have been led to believe that there is a greater tendency to coagulation in the blood of one person than of another—in short, that there is a variety of disposition in this respect; but of the external marks, characters, or symptoms by which the presence or absence of such tendency can be recognised, I am wholly ignorant. At present I know of but one circumstance which certainly disposes the blood to coagulate—namely the abstraction of a great quantity of that fluid from the system, and, therefore, if I attempted a cure on this principle, I would employ large bleedings—so large that each of them should produce syncope or some other decided impression on the entire circulation: it is, however, but fair to state, that having made several trials of the plan, I cannot speak favorably of it as a means of permanent cure, although in other respects I may think highly of it. Unfortunately we do not often meet with internal aneurisms in their incipient or early stages, when we might more reasonably expect advantage from some decisive treatment—in such I have had no opportunity of making the experiment: but even in cases of long standing and large size, in which a cure might almost be regarded as impossible, I can speak of the efficacy of large bleedings, in affording temporary relief, with all the confidence derived from experience. In one remarkable instance, I had a patient with aortic aneurism bled to syncope several times, even to the extent of forty ounces of blood, and always with the obvious result of relieving the pain and difficulty of breathing, and enabling him to lie in any position, which, at the time of his admission, had been impracticable. At the moment in which

I write there is a patient in the Meath Hospital with an abdominal aneurism, of immense size and fearful strength of pulsation, that has been treated in the same manner with such marked relief from suffering that he has frequently solicited to have the operation repeated. An apprehension has been entertained by some that a patient thus suddenly reduced to a state of syncope might never rally, and actually die of, or be killed by, the operation; and, perhaps, such a casualty may have occurred, but nothing even approaching to it has ever happened within my observation." 83.

Mr. Porter touches on the experiments which have been made with the view of effecting coagulation of the blood in the sac by heat, electricity, galvanism, and the injection of certain fluids. He justly objects to these, that the blood is contained in the living body, and differently circumstanced from blood in a basin. "I have performed," says he, "numerous experiments of this description myself with the view of ascertaining the relative powers of different substances in producing a rapid and solid coagulation of fresh drawn blood, and never were experiments more completely devoid of any profitable result. Wherever the blood became rapidly *solidified*, the appearance, and (I suppose) the nature of the mass were changed, and a new substance formed in no way resembling a natural coagulum: the result seemed to be purely chemical, and subject to the laws that govern such operations in dead and inert substances. I have already stated that similar effects would probably not be produced on blood within the system, and even if they were, I feel convinced that the presence of this new material might prove highly irritating and injurious."

Mr. Porter observes that there are few circumstances that can justify our refusing to operate for an external aneurism. Yet when there is proof of the existence of organic disease in the heart, or of the presence of an internal aneurism, or if there are two or more external aneurisms indicating a general disposition to the production of the disease, the operation ought not to be performed; and yet, when the test of experience is applied to this precept, a vast deal of uncertainty will be discovered, occasioned partly by the difficulty of obtaining proofs of the existence of internal disease, and partly by the difference in the constitution of individuals. In a case of popliteal aneurism, Mr. Porter has known a patient to suffer from terrific palpitations, with occasional fainting fits, and other symptoms of disease of the heart, to the extent to render the propriety of an operation rather questionable; yet the man could not be left to die; the femoral artery was tied, and before the patient was removed from the table all these symptoms had subsided. Nor are two aneurisms a positive bar to operation. In the Meath Hospital (during the Winter of 1833-4,) was a patient who had a popliteal aneurism in each leg: he was operated on for both by Mr. M. Collis, an interval of six weeks being allowed between the recovery after one and the performance of the second, and the result was in every way satisfactory. The man however was lost sight of.

Mr. Porter considers the question of amputation one that must occasionally be raised. If the bone is extensively carious, this is requisite. And it may be so, if the aneurism has grown to a large size, when gangrene might follow the ligature of the artery. This has usually, says Mr. Porter, been attributed to the obstruction of the main vessel, and the inability of the collaterals to convey a sufficient supply of blood; but

there are no grounds or reasons to countenance such a supposition—first, because the contrary has been proved by experience, in thousands of instances; and, secondly, because gangrene, when it does occur, is not of the dry and shrivelled kind that seems to arise from diminished circulation and imperfect nutriment, but humid and moist, like that occasioned by a congested state of the veins, and an accumulation of blood within them. If, then, he adds, the tumour is very large, and has already interfered with the return of the venous blood—if the limb has become œdematous and painful—if the superficial veins are enlarged, and ramify numerously under the surface of the skin—or, if the limb is deficient in animal heat—there will be reason to dread the results of tying the artery; and, probably, many cases of mortification that have either not been accounted for, or attributed erroneously to other causes, might, on closer investigation, have been traced to this. It is also worthy of observation, that in cases of large popliteal aneurisms, although a cure of the chief and important disease may have been effected, the patients are liable to abscesses of the limb, and to tedious and inveterate ulcers of the leg for a long time afterwards, or it may be, during their lives.

When the sac contains too great a quantity of blood for the absorbents to remove, this becomes a source of inflammation and of suppuration. This may happen about six weeks after the occurrence of the ligature. Amputation, however, is not absolutely requisite on this account, for, except in some singularly unfortunate cases, the artery has been obliterated before the sac becomes inflamed. There is no danger from hæmorrhage on opening the tumour; and the proper mode of treating such a case would be, to make a free and extensive incision into it, discharge all the matter, turn out every particle of coagulum, and then apply pressure, in order to promote the agglutination of its opposite sides. The sacs of two subclavian and one carotid aneurism under Mr. Porter's care suppurred, were thus treated, and recovered without trouble, and even without an unpleasant symptom.

Mr. Porter does not think that the earthy or bony deposition in the arteries of aged persons constitute any valid obstacle to operation. In the healthiest artery the internal and middle coats are divided, and the ligature is sustained by the cellular one alone, and no more can happen with the artery of the aged person, because this earthy material has no connexion with the cellular tissue. It might indeed happen that a vessel thus circumstanced would not go through the process of adhesion and obliteration, and therefore there might be risk of secondary hæmorrhage; but there can be none of its immediate occurrence. Mr. Porter has operated on an artery of this kind without any unpleasant result, either immediate or remote, and would have no hesitation in doing so again, if urged by the necessity of the case.

Mr. Porter proceeds to examine the modes of treating an external aneurism, viz. pressure—ligature on the cardiac side of the tumour—and ligature on the distal side of it.

1. Mr. Porter mentions some remarkable cases of the good effects of compression.

"Some years since, a man suffering from aneurism, was admitted into the Meath Hospital. The tumour was situated low down in the popliteal space, and

was large, being fully the size of a turkey's egg. The limb was semiflexed, and could not be extended: pain very considerable, together with a sensation of numbness and tingling in the foot: tumour not compressible, at least pressure influenced its size but slightly: it was hard, and did not diminish in bulk when the femoral artery was compressed, which, however, stopped the pulsation. With a view to humour the patient, until he could be persuaded to submit to an operation which I conceived to be absolutely necessary, I rolled a bandage round the entire limb, from the toes upwards. This, as the idea of treating the disease by compression had never been contemplated, was very loose; nor had I the least notion that the tumour could have been influenced by it, one way or the other. But, on my visit the next day, the aneurism was gone. Within an hour after the application of the bandage, the patient experienced some pain in the tumour, which soon became excruciating, and continued the entire night. In the morning the tumour no longer pulsated—it had become solid and firm, and eventually the disease was cured. On another occasion a man was admitted into the same hospital, under the care of Mr. M. Collis, with a popliteal aneurism, the history of which I do not recollect with very great accuracy, except that it was rather of a large size, not compressible, and there seemed not to be much fluid blood within the sac. A bandage was applied to this in a similar manner to that in the former case: it caused immense pain; and in the following morning the pulsation in the tumour was no longer to be remarked. It, however, reappeared after a little time, but so very indistinctly that it was a questionable matter whether the sensation was not communicated from the finger of the examiner, and not from the tumour. The application of the bandage was persevered in, and, in the course of a very few days, no doubt could be entertained of the cure.

Such instances of inexplicable recovery are extremely rare, and, as examples of singular good fortune, are rather to be hoped for than expected; neither can any principle of practice be established on them; but I have occasionally seen compression used in another way with such great success as would, with most practitioners, sanction its adoption in every similar case. The cases I principally allude to were treated in Stevens' Hospital by my friend, Mr. Cusack. As some of them have been published, it will be unnecessary here to state more than that the disease had been the consequence of wound—that the patients were young and healthy men—that the compressing force was evenly applied over the surface, and gradually increased, having been very gentle at first—and that the treatment was assisted by the topical application of cold, and the internal administration of digitalis. Within a very short time past, a patient in the same hospital, and under the care of the same distinguished surgeon, was treated in a similar manner, with the most signal success, for an aneurism of the anterior tibial artery, caused by the wound of a chisel." 100.

But compression has not practically answered on the whole, for the artery is often not favourably situated for it, and the sac might be ruptured by it, whilst the pain of efficient compression is not unfrequently unbearable. Mr. Porter remarks that it may certainly be warrantable to try it where the disease has been the consequence of a wound, and the vessel may be presumed to be otherwise healthy; but even then the size of the tumour becomes the subject of important consideration. If an aneurism is small, the compress may possibly be so placed as to lie directly on the cicatrix of the sac, thereby supporting it, and preventing its contents from being diffused; but if it is large the situation of the puncture will probably be towards one side, and then pressure on the centre will rather have a tendency to force it open and drive out its contained blood amongst the cellular tissue of the limb. It is difficult to lay down any rule, and each

surgeon will probably determine for himself. Mr. Porter expresses his own opinion :—

“ It has been my lot to witness some cases of circumscribed aneurism rendered diffused by pressure; and having seen the patient's distress and danger, the painful, the tedious and difficult operations he had to undergo, and the hazard to which life was exposed afterwards; and having well weighed the different contingencies that may occur, I have come to the conclusion, in my own practice, not to resort to compression, unless there was some insurmountable objection or obstacle to the employment of the ligature.” 102.

The Treatment of Aneurism by Ligature next occupies Mr. Porter's attention. He imagines that the process by which aneurism is cured by the application of a ligature at its cardiac side, is not the same in the false aneurism and in the true: at least it is difficult to explain the varieties met with, or any other supposition. In the false, the great object to be accomplished is the removal of the impulse of the heart from the blood contained within the sac for a sufficient time to allow of this reservoir becoming slowly and gradually filled with blood, and for that blood to become firm and coagulated. This coagulum, then, is pressed upon or against the wounded and bleeding vessel, and produces those consequences within it that terminate in its obliteration; the blood, if the case proceeds favourably, is afterwards absorbed, and the sac, in process of time, is converted into a solid piece of ligamentous substance similar to that into which the arterial trunk has degenerated. The completion of this process requires different periods of time, according to the size of the vessel, the dimensions of the sac, and the quantity of fluid blood it can contain, but is always accomplished long before the separation of the ligature.

Speaking of the subsequent removal by absorption of the coagulum within the sac, and of the occasional occurrence of suppuration in it, he observes that, in several instances, he has evidently traced this unpleasant accident to a too frequent and injudicious examination of the tumour—in fact, to handling and compressing it to see if it was rapidly subsiding. It is painful, and may appear ungracious even to seem to repress the laudable zeal for inquiry and investigation that ought to be the characteristic of every student as well as of every surgeon; but in cases of aneurism, an over-weening curiosity may be worse than useless—it may be injurious, or even destructive to the patient.

Mr. Porter does not think that the same principle of cure obtains in the true aneurism and in the false. In most instances of aneurism, particularly when the tumour has attained any considerable size, the wall of the sac is so thickened, and all the structures are so matted together and confused by depositions of lymph and fibrine, that the appearances are rendered most deceptive, and a very patient investigation will be necessary to develop the morbid changes. But there is one circumstance which, when observed, at once demonstrates that the aneurism has been produced by dilation, and not by rupture or ulceration. It is when the wall of the sac contains depositions which are only met with in the structures of the artery, such as the peculiar earthy scales that are formed in the vessels of aged persons, and the soft steatomatous material that may be the product of unhealthy inflammation at any period of life. In opposition to the

opinion of Scarpa, Mr. Porter entertains no doubt that there is a pathological condition of an artery producing all the symptoms of circumscribed false aneurism, and apparently curable by the same means—that is, by the application of a ligature at its cardiac side. It seems to be formed by a dilation of the fibrous and cellular coats, and the absorption of the internal lining; and thus is so far a true aneurism as that the artery is uniformly dilated around its entire circumference, and so far a false one, that the internal lining membrane has been removed. Mr. Porter gives a case in illustration. In March, 1835, a man was admitted into the Meath Hospital, with popliteal aneurism in each ham, one of which had existed for several weeks; the other was of recent occurrence. The limb in which the larger and older one was situated was first made the subject of operation—the femoral artery was tied, but the patient died on the sixteenth day afterwards, the ligature on the vessel still remaining firm and undetached. Dissection shewed that both these aneurismal sacs had been formed by the entire and equable dilation of the fibrous and external coats of the arteries, and that the lining membrane had in both instances been absorbed. Mr. Porter relates another case, for the purpose of exhibiting the principle on which this form of aneurism is probably cured by operation. A man was operated on by Mr. Collis, in the Meath Hospital, for popliteal aneurism, on the 22d of January, 1831. The ligature came away on the seventeenth day—the tumour diminished; in short, everything went on well, and the patient left the hospital perfectly cured. So far as the aneurism was concerned, he remained healthy and free from inconvenience until his death, which happened in March, 1835, from fever, and such an opportunity for pathological inquiry was not neglected. The tumour, which had been originally of the size of a turkey's egg, was found to have diminished to little more than that of a walnut; externally it felt hard, and as if solidified. On being cut into, however, neither artery nor sac was obliterated—the latter being occupied by a coagulum of a deep red colour, through the centre of which was a canal of a sufficient size to allow the blood from the portion of the artery above the tumour to flow freely into that below it. It seemed as if the current of blood through the sac had never been interrupted, the only effect of the ligature having been the removal of the impulse of the heart from it.

Mr. Porter observes, that whenever an artery is dilated, either wholly or in part, the dilated portion is uniformly found after death filled with coagulated blood: it seems that under such circumstances the fibrous coat is so far weakened as to be incapable of emptying the vessel after it has been filled by the last stroke of the heart, and the blood that is within it remains there, and Mr. P. imagines that something of the same kind takes place during life, when the impulse of the heart has been removed by the interposition of a ligature. He details a case of aneurism of the femoral artery, and proceeds:—

“From this case I infer—1st, that the contractile force by which an artery is emptied immediately previous to death, exists in the vessel, and is wholly independent of the heart, inasmuch as any assistance to be derived from the latter had been here intercepted by the ligature; and, 2dly, that that force (whatever it may be) did not exist in the dilated portion of the vessel. Now, if reference is made to the manner in which blood circulates through a dilated vessel during

life—that the dilated portion is always full, and is expanded during the diastole, by the influx of a very small wave of blood sent by the heart, and is diminished by the exit of a corresponding portion, caused more by the elastic resistance of the parts covering the artery than of that of the vessel itself—it will not be difficult to perceive that the circulation of the blood through an artery, the vital qualities of which are thus impaired, the constant disturbance of the fluid within it, and the prevention of its coagulation, depend upon the heart, and that the blood will stagnate and become coagulated when the impulse derivable from that organ is lost. It is thus that I conceive true aneurism is cured.” 122.

We must confess that we are not altogether satisfied of the correctness of Mr. Porter's notions with regard to true aneurism. And we suspect that his views will not be received without demur.

Mr. Porter touches on the ligature of the artery on the distal side of the aneurism. He thus sums up his own convictions. “As to the ligatures of the subclavian and carotid, for the cure of an aneurism of the innominata, I never allowed my mind to dwell on it for a moment, believing that it was necessary that both branches should be tied; and entertaining the opinion I do, that the ligature of the subclavian, in its first stage, before it reaches the scalenus, cannot, for anatomical reasons, ever be practised with success. It appears, however, that in such a case the ligature of the carotid alone has answered the purpose, and so far experience seems to be in direct opposition to theory. Notwithstanding all these authorities, I confess I still find it difficult, in my own mind, to place confidence in this operation, or to recommend it, except in cases where, from the size and situation of the tumour, it must be impracticable to apply the ligature at its cardiac side; then, indeed, the patient would be entitled to whatever chance it might offer, however meagre that chance would be.” We fancy that the majority of surgeons will acquiesce in this opinion.

Diffused Aneurism.—Mr. Porter draws a distinction between “diffused aneurism” and “traumatic aneurism.” The latter term he limits to the case, where there is an external wound so leading down to, and communicating with, the injured artery as to permit the escape of a portion of the blood from it. This latter is the essential condition of traumatic aneurism. Thus, the affection may have been produced by a wound, yet if that wound is healed, or not being healed, if it is very oblique, or if there is any circumstance that prevents the blood from passing out of the limb or part, it falls not under the appellation of traumatic aneurism. In either case, says Mr. Porter, there is always very great danger, partly arising from the loss of blood, but more particularly from the presence of the blood within the limb inducing a state of mortification; but this latter peril, being always proportioned to the extent to which the diffusion has reached, may be considerably modified by circumstances. Thus, if the wounded artery is firmly bound down by a fascia, or if there is any other obstacle to the free and rapid passage of the blood upwards and downwards through the limb, the growth and progress of the disease may be extremely slow, and it is only when the fascia has sloughed, or the resistance is otherwise removed, that the diffusion becomes extensive, and the patient's danger imminent. And the worst feature of the case is, that the nature of the disease may

not, and probably will not, be recognised until it is too late. Mr. Porter mentions an interesting case.

A man received a blow on his leg, by the fall of a crate of glass on shipboard, whilst on his passage from Liverpool to Dublin; he came to the hospital complaining of deep and dreadful pain in the limb; but, on examination there was nothing abnormal to be found, no swelling, discoloration, tenderness, or lameness, and consequently very little attention was given to the case. In this state he went about during a period of six weeks, from one institution to another, at some regarded as an hypochondriac, at others, perhaps, as an impostor, but at all completely overlooked, when, at the end of that time, he experienced a sensation as if something had given way within the leg, which immediately began to swell, and ran so rapidly into gangrene that amputation was performed on the following day. He died, and, on dissection of the limb, after removal, the posterior tibial artery was found ruptured, and a large quantity of blood under the deep fascia that lies behind it. A ragged sloughy aperture was seen in this fascia, and the limb in every direction extensively injected with blood. It seemed as if the artery had been injured by the original blow, and had bled under the fascia which subsequently gave way and burst, and then mortification rapidly ensued.

The treatment of diffused aneurism naturally occupies him. Mr. P. thinks that there are three varieties of case connected with diffused aneurism that may require each a distinct and separate mode of treatment.

1. Mr. Porter considers the wounded and bleeding artery as a point of secondary importance in coming to a decision as to the line of practice to be adopted, the chief being the quantity of blood effused; for if it is very great, even although mortification may not have actually taken place, yet it is quite possible the limb may be in such a condition as to render it inevitable: or supposing otherwise, and that there is so little apparent ground for this apprehension that the artery only is secured, still, if there is much blood, the probability is, that it will act as a foreign body, or perhaps that it may putrefy—that large abscesses and profuse suppuration will result, involving the necessity of deep and extensive incisions in a limb otherwise severely injured, and that a rapidly destructive hectic would be established. To determine the propriety, or otherwise, of amputation, all the circumstances must be taken into the account, and what should cause a leaning against amputation is the fact, that when performed for aneurism, it has been singularly unsuccessful.

2. "The next case for consideration is that in which an attempt is to be made to save the limb, and here the question for decision is whether the vessel may be tied at a distance, as in circumscribed aneurism, or whether it must be cut on and secured above and below the seat of injury: and here the quantity of blood effused must again be taken into account, as well as the presence or absence of an external wound. If there is no such wound, and the quantity of blood is not so very great as to dissipate every hope of its being absorbed, I see no reason why the Hunterian operation should not prove successful. The principle on which a cure is accomplished in diffused aneurism without a wound ought to be precisely the same as in the circumscribed, namely, the wound in the artery must be subjected to a degree of pressure sufficient to effect the obliteration of the vessel at that spot, and this should be perfected by the coagulum in the one instance as well as in the other." 137.

Of course it is desirable to avoid, if possible, cutting into a limb so gorged with blood, or on an artery so circumstanced. And in the tenth number of the *Repertoire d'Anatomie et de Physiologie Pathologiques*, there is a memoir by Baron Dupuytren, in which two cases are detailed, one that was under his own superintendence, in the Hotel Dieu, and the other under that of Delpech, at Montpellier, which go far to prove that the laceration of an artery by a spiculum of bone may be cured by the Hunterian operation.

3. But there is still another case, and let us suppose a limb into which a quantity of blood has been extravasated, not sufficient to cause a gangrene of the part, but still too abundant to admit a hope of its being absorbed. Here, I apprehend, the surgeon has no choice—he must cut down, turn out all the coagula he can reach, in this way getting rid of that which would be a subsequent source of irritation, and then tie the vessel above and below the aperture.

Mr. Porter touches on another point. If the diffusion has been caused by the rupture of a circumscribed sac of an idiopathic aneurism, it will be the more objectionable to cut down upon the injured spot, because there is so far presumptive evidence of the artery not being healthy in that situation, and consequently the risk of secondary hæmorrhage will be the greater.

4. For “traumatic aneurism” Mr. Porter advises the cutting down directly on the injured vessel, and tying it above and below the wound. Mr. Porter illustrates his position by a reference to the case of the brachial artery wounded in bleeding. He draws a practical distinction between the case where the artery is wounded without much effusion of blood into the parts around, and that where the effusion is considerable. Of these cases, one is only hæmorrhage, the other diffused aneurism. In the former there can be no reason why compression should not be tried—the artery is healthy, its position preserved, and its condition, in every respect, favourable; and, if properly and firmly bandaged, the wound may unite well, and the hæmorrhage be perfectly controlled.

If pressure, *judiciously* applied, fails, there is still a chance that the aneurism may prove circumscribed, and admit of subsequent treatment by the Hunterian operation. But in the actual traumatic aneurism pressure is not likely to succeed. Suppose it to be attempted, where is it to be applied? The artery in all probability has been pushed by the effused blood out of its position, and we know not where it is placed. And how is it to be maintained? To be of any use it must be even, firm, and unyielding, and the pain it would occasion must be absolutely intolerable—most patients would remove the bandage in despite of any warning to the contrary. Such are the objections to pressure even at an early period; but when the aneurism has become decidedly diffused, it is of course out of the question.

“It may possibly be objected, that in many cases of traumatic aneurism, a milder mode of treatment might be adopted, for that success has attended the application of a ligature on a distant part of the artery. I concede the point. If the obliquity of the wound, or its smallness of size, or any other circumstance connected with it, offers such obstacle to the flow of blood, that on the removal of the impulse of the heart from that part of the circulation, the external bleeding

ceases, then the aneurism, immediately on the application of the ligature, loses its traumatic character, and is no longer subject to its laws: but how do I know, previous to an operation, that such is the exact nature of the case with which I have to deal? I see before me a wound, 'permitting coagulated blood to protrude, and fluid blood to trickle,' can I tell that these phenomena are produced and maintained by the impulse of the heart alone, and will cease when that influence is removed? No! such knowledge is not mine, and if in the spirit of empiricism, I practice the Hunterian operation and succeed, I have just the consolation of reflecting, that I acted rightly on wrong principles, and cured my patient, by exposing him to a double and therefore an unwarrantable danger. Again, if after the ligature has been tied, a sufficient degree of pressure is applied to lay the sides of the bleeding artery together, occasion its inflammation and subsequent obliteration—in short, if external artificial pressure can be made to effect all that which the resistance of the skin, and fascia, and other superincumbent structures would have accomplished in a less injured limb—then I conceive it possible that the removal of the impulse of the heart may be followed by a cure. But how do I know that I can apply such pressure, or, being applied, that it can be borne?" 144.

Causes of Failure of the Operation for Aneurysm.—Mr. Porter first touches on the return of pulsation in the sac. In proportion to the facility with which the blood enters this, is the cure of the disease put in jeopardy. The phenomenon in question may arise from different causes, some of which are known—others, perhaps, remain to be discovered. One is the existence, by an irregular distribution, of two trunks in the limb, both conveying blood to the aneurismal tumour. Sir C. Bell had a case of popliteal aneurism in the Middlesex Hospital, in which, just below the origin of the profunda, the femoral artery divided into two branches of nearly equal size, which ran parallel to each other, until they arrived at the spot where the artery perforates the tendon of the triceps muscle, and there they united again. Only one of these was tied, and although the pulsation ceased for a moment, yet it soon returned, and never disappeared until the patient's death, which happened a few days afterwards from erysipelas. A preparation of a similar distribution is preserved in the museum of the Royal College of Surgeons in Dublin, and Dr. Todd states that another is to be seen in St. Bartholomew's Hospital, London.

Another case, in which pulsation will be likely to re-appear in the tumour, is where one or more large branches arise from, or otherwise communicate with, the sac. The possibility of this occurrence has been abundantly proved in internal aneurism, where it shews that the morbid condition of the vessel is dilation and not rupture or ulceration, but Mr. Porter is not aware that dissection has shown it in external aneurism.

Mr. Porter conjectures, that tying the ligature too loosely may be another cause. A few years since, the femoral artery was tied by Mr. Cusack for popliteal aneurism. The patient was excessively restless and turbulent, and it was with the greatest difficulty the operation could be completed at all. In the course of a few hours pulsation re-appeared in the tumour, and remained, for a few days, gradually dying away and becoming feebler, but the case nevertheless progressed favourably, and at little more than the usual period the ligature came away. When examined, it was evident the noose had been tied loosely: it could easily allow a tole-

rably large goose-quill to pass through it. About the same time Mr. P. saw a similar case, except that in this latter the noose was left large designedly, with a view that the impulse of the heart only should be removed, without absolutely preventing the passage of the blood. In this instance the appearances were very curious. When the patient's limb was bent, and the artery, as it were, relaxed, pulsation was not only evident, but tolerably strong in the tumour; when, on the contrary, the limb was extended, the pulsation disappeared. The noose of this ligature also separated slowly, and when removed was found to be very large.

The next circumstance is the existence of such an extensive and free communication, by anastomoses, as will convey to the tumour, by a circuitous route, the impulse which the ligature was intended to remove. It is probable that this condition obtains, with respect to aneurisms of the internal carotid in the neck, and that the free and extensive anastomoses through the vessels of the brain in their natural and normal state, will be quite sufficient, to interfere more or less completely with the cure. Mr. Porter relates three cases in point.

There is an anatomical peculiarity in the internal carotid, unfavourable to the exercise of pressure on the artery by the coagulum in the sac. Internally, or towards the pharynx, it has nothing but the mucous membrane, the constrictor of the pharynx, some very loose cellular tissue, and the twigs of the superior laryngeal nerve; thus the aneurismal sac has ample room to grow and increase inwardly, and, consequently, the pressure it is forced to make on the opening in the vessel may be so trifling as not in any way to lead to its obliteration. Mr. Porter points out the necessity for examination of a carotid aneurism by the mouth.

A young girl, named E—— M——, was admitted into the Meath Hospital, with a varicose aneurism situated at the angle of the jaw, and extending downwards a short way along the course of the external jugular vein. It became very large and prominent when pressure was made on this vessel below, so as to interrupt the current of blood; it became then excessively painful, and exhibited the usual thrilling sensations, both to the finger and the ear; but when looked at from the mouth, a strong and continued pulsation, together with considerable tumefaction, was visible to every eye.

A probable reason of the non-success of the operation in some instances, is constitutional idiosyncrasy preventing the coagulation of the blood. The following appears to be a case in point. Some years ago, a man was admitted into the Meath Hospital, having received a stab of a sharp-pointed shoemaker's knife, about an inch below the right sternoclavicular articulation, by which the internal mammary artery and vein were wounded. These vessels poured out their blood continually, and in such abundance, into the cavity of the pleura, that the lung became dreadfully oppressed, and it was deemed advisable to perform the operation of paracentesis, on the fourth or fifth day after the receipt of the injury. The wound made in the operation was large, in the expectation that it might facilitate the escape of any coagulum, but the precaution was found to have been unnecessary, as the blood had remained in a perfectly fluid state, and flowed away with great facility. The quantity of blood thus lost was enormous, it must have amounted to some quarts, and as the wounded vessels still

continued to bleed, it is scarcely necessary to add, that the patient soon died. On examination after death, a good deal of fluid blood was found in the cavity of the pleura, but not a particle in a state of coagulation. But, in fact, there are many cases on record more striking than this.

“ There still remains one condition more to be noticed, in which pulsation has been observed to return in the tumour after a ligature has been applied on the arterial trunk, namely, where it appears in consequence of, or, at least, in connexion with, inflammation of the leading vein. It is perhaps, not easy to place these occurrences, in the relation of cause and effect, in the clear light of demonstration; neither is it of much importance, in the study of aneurism, for, when this calamitous accident takes place, the condition of the sac will form but a secondary consideration; still, the observation is new, and may be interesting in a physiological point of view. The peculiarity of the phenomenon in this case is, that it occurs after the inflammation has been established, that is, at a much later period than when produced by any of the preceding causes; that it increases in intensity along with it; and that examination after death exhibits no explanation of it except the one advanced. I apprehend the cause of it to be shortly this, that blood does not circulate through the inflamed vein—that congestion, consequently, occurs in the minor branches and capillaries—and that, as a result of the resistance thus offered to the circulation, a reflex action is produced in the arteries, just as in a case of congestion from inflammation or any other cause.” 173.

Case.—On the 4th July, 1840, in the operation of securing the femoral artery for the cure of a popliteal aneurism, the vein was unfortunately pricked, and a small portion of it included in the ligature along with the artery. The case progressed pretty nearly as all such cases do, as unfavourably as possible, and the patient died, on the fifteenth day after the operation, of inflammation of the vein and its consequences. Pulsation re-appeared in the sac on the 10th day, and gradually increased in violence until the man began to sink a few hours before his death.

On dissection, the vein was found extensively inflamed, but the inflammation had passed more freely down the limb, where it extended even beyond the popliteal space, than upwards, for it was limited in that direction at the groin. The vessel appeared enlarged—its coats thickened and solidified—on being slit open, the lining membrane seemed to be in a state of slough—it was of a muddy brown colour and bathed in a quantity of foul and fetid sanies. Masses of soft broken lymph were seen filling up the entire of the canal in several places, but there was no clot of blood, nor any discoloration of the lymph, to indicate that it had been in contact with blood since the time of its formation. Placed in connexion with the œdema of the limb, the enlargement of the superficial veins and other symptoms that occurred during life to indicate an obstructed circulation, it was the opinion of those who examined the limb, that blood had not circulated in the vein from the time it became inflamed.

Secondary Hæmorrhage is the next subject discussed by Mr. Porter. He dwells upon its difficulty, and on the uncertainty which envelops the causes of this formidable accident.

Practically, says Mr. Porter, we meet with *secondary hæmorrhage* under two conditions—one, where there has been previous bleeding, which, be-

ing controlled for some time, bursts forth again: thus, if a bleeding vessel that had been tied, or a surface to which the cautery had been applied, should bleed, or even if a hæmorrhage that had seemed to have been stopped by the sanative powers of Nature alone, should appear again, this bleeding is termed secondary. The other, where there has *not* been previous bleeding, but where a ligature or some other form of compression has been applied to an artery, in order to the cure of an aneurism situated in some distant part. "Now," adds Mr. Porter, "in the first of these, all the cases of bleeding that occur at a very early period should be termed 'primary.' If a ligature has been loosely and imperfectly applied, and slips from its hold on the vessel—if a patient has been put to bed after an operation without all the wounded arteries being secured—if compression has been resorted to, and the bandage or other contrivance has yielded—or if the cautery has been applied sparingly and insufficiently, there is as little reason for considering the hæmorrhage as secondary, as there is for compassionating the surgeon, to whose *insouciance* the accident is attributable."

It appears to us that were Mr. Porter's suggestion acted on, there would be inconvenience and difficulty. The smaller vessels of a stump which are usually sealed by Nature at once, bleed in twelve or twenty-four hours after the performance of an operation. Surely this is as much secondary hæmorrhage, as if, on the separation of a ligature, the natural process has not closed the vessel. It is right, of course, to be acquainted with all the various circumstances that give a disposition to such hæmorrhage, and to discriminate that which occurs early, from that which happens at a later period. And this we think the best-informed surgeons do.

It is not the least important feature of hæmorrhage, whether primary or secondary, that it evinces great capriciousness in its cessation. Ruspini's styptic, and probably other more orthodox drugs, owe no trifling part of their reputation to this. The bleeding stops, perhaps all at once, and the *nostrum* gets the credit of it.

Case.—A boy, attempting some improper liberties with a female servant, was struck by her with a knife in the superior part of the thigh, and the profunda artery wounded: the bleeding was immediately controlled, but, after nine days, burst out again, welling forth without impetus, and coming from the inferior section of the artery. Pressure was applied, but inefficiently, for in a little time he bled again, and, after several recurrences of hæmorrhage, he was reduced to so deplorable a condition that something more effectual should be done. The application of a ligature on the bleeding vessel was out of the question, for, lying deep on the bottom of a granulating wound, its mouth could not be discovered: he was placed on the table, in order to have the iliac artery tied, when some person remarked that he had not bled since the previous evening—he was replaced in bed and never bled afterwards.

Mr. Porter cannot find a satisfactory instance of very early secondary hæmorrhage from the application of a single ligature, as in a case of aneurism.

The second form of consecutive hæmorrhage may be again subdivided into two classes essentially differing from each other in their origin, pro-

gress, and terminations, one occurring at a period near to, but somewhat earlier than, the time the ligature ought naturally and healthily to come away—the other, at a much later period, when the cord has been long separated, and, perhaps, a reasonable degree of confidence might have been entertained that the patient had surmounted every danger. The first of these is by far the most frequent of occurrence, and is sometimes, but not always, preceded by febrile symptoms and other indications of the coming event. The artery has usually been completely divided by the cord which may have come away. Mr. Porter has seen the blood flowing from the inferior segment, whilst the ligature was still firm and fixed upon the upper. It is always the inferior portion that bleeds. Though few patients die of the actual hæmorrhage, yet, either the extensive and successive bleedings, or the means it may be necessary to have recourse to in order to control them, or the wretched state of constitution that predisposed to the disease, and is daily aggravated by its continuance, each or all of these may lay the foundation for future ills. There have been several such *fortunate* cases in the Meath Hospital. In some mortification took place, probably induced by pressure on the vein, and one of these was only saved by amputation performed while the gangrene was still spreading. Others, again, at a more remote period, suffer from abscess, ulceration, periostitis, caries, mortification, and a host of other maladies involving the loss either of limb or of life. Mr. Porter has never seen a case of secondary hæmorrhage from the femoral artery that there was not erysipelatous inflammation and abscess on the outside of the thigh near the great trochanter. Unquestionably, it is not always easy to connect these accidents with the consecutive hæmorrhage by accurate pathological reasoning; but they occur too constantly to admit any doubt of their relation.

Mr. Porter explains the occurrence of secondary hæmorrhage by the existence of unhealthy, in lieu of the proper healthy inflammation of the artery. As a consequence lymph has not been thrown out. He adds,—

“ The most curious part of the question is, why these two forms of inflammation should occur in the same individual; yet, experience proves that secondary hæmorrhage only takes place from the segment below the ligature, and I have verified by dissection the fact that a different kind of inflammation takes place at the cardiac and the distal side of the cord. A man died on the sixteenth day after the operation for popliteal aneurism, and whilst the ligature still remained undetached from the artery. The vessel was carefully removed from the body, and on being slit up, the lining membrane of the portion at the cardiac side of the ligature was of a pale yellow colour, and nearly of its natural appearance, with the exception of one or two broad spots of a very light pink colour. A large coagulum extended upwards from the seat of the ligature, the base of which was attached to the lymph situated there. The ligature was still firm, but on attempting to tear it away, the lower portion of the vessel easily separated from it, leaving it still firmly fixed on the upper section—a circumstance that explained a fact I had frequently witnessed, that of secondary hæmorrhage occurring before the final separation of the cord. *Below* the spot where it had been tied, the vessel appeared to be of a deep pink colour, approaching to carmine, the seat of which colouring matter was in the cellular tissue, between the fibrous and internal coats. This cellular substance seemed to be hypertrophied and largely congested with blood, while it caused the lining membrane to be

thrown into transverse rugæ, or folds. On pulling off the membrane, it was pale, transparent, and colourless—devoid of proper vascularity; and, on looking along the slit side of the vessel, the fibrous coat and the internal membrane were seen like white lines, with the congested cellular tissue between them. There was not a particle of coagulum, either of blood or lymph, in any portion of the vessel below the ligature.” 184.

The following opinions will not be deemed quite orthodox. Mr. Porter speaks of the denudation of the vessel in the operation, a reputed cause of hæmorrhage.

“It has been already observed,” says he, “that some of the most clumsily performed operations have had the best success, and *vice versa*—a circumstance that could not happen if the denudation of the vessel was of such extraordinary consequence. Again, in considering the subject pathologically, we find that ulceration is not a diseased process to which the arterial structure is prone, except when it occurs internally, and as a sequela to the inflammation and steatomatous deposit already so extensively noticed. An artery will lie perfectly denuded and white at the bottom of a phagedenic ulcer in the groin for days, before it gives way and bleeds; and when it does, it is not by ulceration, but by the formation of a slough, on the separation of which the blood bursts forth rapidly, and in a manner totally different from the phenomena of secondary hæmorrhage. Lastly, if this denudation was to have any injurious effect, it should be by cutting off the vascular supply from which the vessel derived its nutriment, and the consequence of that ought to be sloughing, and not ulceration; and, in either case, both sections of the artery should suffer alike, whilst it is known that the bleeding always comes from the inferior. Moreover, although experiments on animals cannot have any decisive importance attached to them, yet they may be noticed when they bear remarkably on any particular point. Haller and John Hunter, Sir E. Home, and, in this country, Sir P. Crampton, dissected off the external and fibrous coats of arteries with a view to ascertain whether aneurism could be produced by a protrusion or hernia of the internal one. In such an experiment, this membrane must have been deprived of all connexion with adjacent parts, and cut off from all vascular supplies. Why did it not die and slough away?—at all events, why did it not ulcerate, if this pathological explanation of secondary hæmorrhage be the true and correct one? The answer is simple and plain—because, in order to this result, a particular kind of inflammation must be established in the vessel, of which the artery of an animal is not susceptible, and which, although it may occur in man, is certainly not produced by the denudation so much spoken of and relied on. In these pathological observations let me not be misunderstood as advocating careless or clumsy operations; for, if operating myself, I should not wish to expose more of the vessel than would barely permit of the passage of the ligature around it; but I cannot, at the same time, shut my eyes to the truth, and admit as the solution of a phenomenon a fact so obviously insufficient.” 186.

We are not quite sure that the preceding reasoning is conclusive. In the first place, it is certain that to denude the artery extensively *must* interfere with its vascular supply—in the second place, such interference cannot but tend to impair the vitality of the vessel—in the third place, there is no reason why ulceration should not ensue, as well as sloughing—in the fourth place, the matter of fact would seem to be that secondary hæmorrhage *was* more frequent than it *is*, and vessels *were* more bared in operations than they *are*—in the fifth place, experiments on animals are peculiarly unsatisfactory in such a question—and in the sixth place, the circumstance of some patients escaping in spite of denudation of the ar-

tery, proves rather the strength of their constitutions than the safety of any such practice.

Mr. Porter alludes to the plan of Mr. Abernethy, that, namely, of applying two ligatures to the artery, and dividing it between them. He says,—“What could be done more entirely calculated to avoid these influences than this operation? and yet, when we test it by the results of experience, we find it valueless; for it cannot be questioned, and the observation is supported by the authority of Dupuytren, that as many cases of consecutive hæmorrhage follow this mode of operating as any other; if permitted to speak from my own experience, I would say—more. Here, then, both the ligatures are placed as remotely as possible from each other—no part of the vessel is denuded or disturbed, except the intercept between them—and, when this is divided, both the segments remain in perfect contact with their natural connexions, as completely nourished as before the operation; and, if the hæmorrhage occurs amid all these favourable circumstances, it forms the strongest argument against those who imagine the disturbance of the artery to be its cause.” We should draw the contrary inference. How two ligatures and intermediate division of the artery can occasion less disturbance than one, we do not clearly comprehend. We should imagine that it creates more.

“Another cause that has been adduced as leading to secondary hæmorrhage is, the circumstance of the ligature having been applied near to a collateral branch, because, in such case, there can be no internal coagulum formed, and a part of the natural process must be incomplete. It has been already stated, that more importance seemed to have been attached to this early coagulum than it deserved; and, indeed, I cannot see how it can have any influence on an artery at so late a period as when the ligature is about to separate; but the best observation on this subject may be derived from experience. I have tied the common carotid, within an eighth of an inch of its origin from the innominata, with the most complete success: and yet, if there is one spot in the body where this cause of secondary hæmorrhage should operate with decided effect, it is here. This theory must, therefore, be dismissed as insufficient also.” 187.

We apprehend that most unprejudiced surgeons will pronounce this hasty reasoning. A general rule, founded upon many facts, is tried by a single exceptional occurrence. As a matter of reasoning, the internal clot must be of service—as a matter of fact it has been found so, for the operation for aneurism has generally been most successful, on arteries with few collateral branches. If we might hint a fault in Mr. Porter, it is that he is too fond of arguing from exceptions.

Mr. Porter observes in continuation, that it seems to be nearly proved that, in a divided artery, a different process is set up in the two segments as preparatory to secondary hæmorrhage—that the superior one inflames *healthily*, lymph is effused, and the orifice obliterated—and that the inferior inflames *unhealthily*, lymph is not effused, the vessel remains open, and allows of the escape of the blood; the next, and the really valuable point to determine, is as to the cause which gives a tendency to this unhealthy inflammation in one individual more than in another.

Mr. Porter observes, that however hopeless the case may appear, when considered pathologically, it is certain that some patients have recovered, and, therefore, it is our duty to use our best exertions: and he thinks the

case ought to be treated in the same manner, and on the same principles, as ordinary hæmorrhage, namely, the vessel must be subjected to the degree of pressure which would in such case cause its obliteration. Here the ligature is inadmissible, because, in the confusion of parts, it would be difficult, if not impossible, to find the artery, but more particularly, because that line of practice had already been tried and failed. There appears then to be no resource but the application of mechanical pressure by some other method, and if this does not accomplish the desired purpose, and the limb cannot be removed, the patient's chance of life is but small indeed.

Mr. Porter discusses the propriety of applying a fresh ligature on the artery nearer the heart. He inquires—"if the superior segment is closed and blocked up with lymph, or if, as I have before noticed, the ligature still remains upon it, whilst the lower had separated and was bleeding, of what possible utility could the tying of the artery higher up prove? It could only remove the impulse of the heart from the superior section, from which no danger is to be apprehended, but could have no influence on the lower, already deprived of that impulse, and supplied only by the collateral branches." Mr. Porter thinks the operation positively injurious in two ways; one by a fresh secondary hæmorrhage from the newly-tied artery, and the other, by inducing gangrene.

He adds:—

"On a *prima facie* view of the subject, it would be only natural to suppose that where the ligature of the femoral artery is followed by secondary hæmorrhage, the same causes operating in the same individual would occasion the same result if the iliac was secured afterwards. Such is really the case, but with this difference, that the hæmorrhage from the second ligature always appears at an earlier period than that from the first. Some years since, I had an opportunity of seeing this fact fatally exemplified, in a man who was the subject of operation for popliteal aneurism. In this case no ligature was used; but the artery, having been laid bare, was compressed with Deschamp's instrument; yet, in due course of time, secondary hæmorrhage made its appearance—the artery bled on the eleventh day. There was space for securing the vessel higher up on the thigh, which was accordingly done; the ligature here separated, and the bleeding occurred on the sixth day, the external iliac was then tied, but it bled on the third day. As a last resource, the thigh was amputated, although I never could learn what benefit was expected from this operation, and the patient died upon the table. In these remarks, relative to the second ligature of arteries, I am again borne out by the high authority of Dupuytren, who observes, that in these cases the cellular tissue of the artery becomes inflamed and hard, that it breaks down under the ligature, and, being thus incapable of retaining it, allows of its premature separation." 192.

If the second ligature is not followed by hæmorrhage, the patient is still, by no means safe, gangrene not unfrequently occurring. We think that the opinions of Mr. Porter on this subject deserve the consideration of surgeons, although we are not prepared to say that we go their entire length. Whatever theory may inculcate, there are still a sufficient number of cases of success from applying a second or even a third ligature to make us hesitate to sweep the operation from amongst the *possibilia* of surgery.

The treatment of the case which Mr. Porter recommends is this:—on the appearance of the blood the wound should be opened up, the granulations broken, and the mouth of the bleeding vessel fairly exposed; on it a small piece of prepared sponge should be placed deep in the bottom of the wound, care being taken that the pressure should be confined to this one spot—on this a small compress of lint, and another, and another, successively, until the graduated compress shall have attained a level higher than the adjacent surface of the limb. This must be firmly retained without being permitted to slip, and without allowing the escape of a single drop of blood; and, if this can be accomplished for three or four days, there is every reasonable probability of success. But here is the great difficulty. It is scarcely possible to apply a bandage, so as to answer the purpose, without interfering with the venous circulation and occasioning great pain; and as all bandages stretch and slip, and become relaxed, no certain reliance can be placed on them in a case where the patient's feelings encourage him to disturb them.

Now, let us suppose this pressure applied and maintained in the best possible manner—suppose a number of assistants relieving each other in keeping up a continued manual pressure, and regulating both the quantity and direction of it to the extent that might be necessary, and no more, still is the case unpromising: for the artery is seldom in a condition to effect those changes necessary to the permanent suppression of the bleeding, and although some few recover, yet is the chance against any given case exceeding great. For the management of one of these cases Sir P. Crampton contrived a kind of tourniquet, which has hitherto proved useful, and, probably, will be successful where success is possible. It consists of a plate on which the back of the thigh rests, to which is attached an iron hoop-ring; in the front of this ring a screw is placed, which, acting on a plate underneath, makes direct pressure on the graduated compress, whilst the hoop protects every other part of the circumference of the limb. By means of this instrument two cases were treated in the Meath Hospital with the most remarkable success, and some others, Mr. Porter believes, in Dr. Stevens'; it may be removed if the bleeding continues subdued for a few days; but the sponge at the bottom of the wound should be left to be detached by suppuration. But in all the cases of recovery, abscesses formed in the superior and external parts of the thigh, pending the pressure or immediately after its removal; in one of them the wound became sloughy, and fears were entertained that it would be necessary to discontinue the pressure. The first on whom it was tried seemed to recover well, but, in a short time afterwards, was attacked with abscesses, disease of the knee-joint, periostitis, and finally the limb was amputated for spreading gangrene. Mr. Porter has seen two other cases treated by compression and fatally.

Sometimes the patient complains of intolerable pain from the pressure, the limb becomes œdematous, and gangrene supervenes—sometimes the part of the thigh immediately around the wound is seized with erysipelas, which spreads in every direction, notwithstanding the removal of the pressure—sometimes the edges of the wound become livid, dark purple, or black, and gangrene commences there. In all and every of these cases, the constitution is deeply and dangerously engaged. No case of secondary

hæmorrhage can occur without great anxiety and excitement of mind, accompanied by the debility which is the natural consequence of repeated losses of blood. This combination produces an irritative fever of the worst kind, exhibiting symptoms of nearly typhoid depression: a system thus deranged is very unlikely to make any successful rally.

Such is the picture drawn of compression by its advocate. We must be excused if we adhere to the opinion we expressed, and believe that a second ligature may sometimes be judiciously employed. For many of the evils described by Mr. Porter are attributable to compression itself.

"There is still," says Mr. Porter, "another form of secondary hæmorrhage, more provoking in a surgical point of view, (if I may be allowed the expression,) than either of the former, because it comes on at a later period, after the ligature has been for some time separated and removed, and when both practitioner and patient might have entertained a reasonable expectation of having surmounted every danger. This, as far as I know, is a most calamitous occurrence, and scarcely admits either hope or chance of escape. Thus, when the wound remains a long time open and suppurating profusely, or when abscesses and sinuses form around the vessel, or when it lies bare and denuded at the bottom of the wound, there is danger that it will give way and slough, just as it might do in any gangrenous or phagedenic ulcer. It is probable that to this cause the failure of Mott's case of ligature of the innominate is to be attributed. The ligature came away on the fourteenth day after the operation, and on the twenty-third day the hæmorrhage occurred, bursting forth with great violence to the extent of twenty-four ounces, and nearly destroying the patient in a moment; he died on the twenty-sixth day, and dissection shewed a large and deep ulceration around the artery, which had spread to, and engaged it, as well as the other great vessels arising from the arch of the aorta.

Mr. Abernethy had a case nearly of this description in the femoral artery, and I have seen one in the arm, where the artery was completely insulated by a sinus running along it. Fortunately these cases are not of frequent occurrence, for they scarcely admit of any remedy except the deplorable one of amputation, and if the situation of the vessel will admit of this, I know not how life could be preserved; for it would be impossible to apply pressure on a vessel in the midst of such an open sore or abscess; and I have already shewn how very inefficacious a ligature must be when placed higher up or nearer to their heart. It is obvious that this kind of consecutive hæmorrhage must frequently owe its origin to constitutional causes, and also that the place in which the artery is situated may occasionally have some influence. Thus, as these protracted unhealthy suppurations are prone to occur where there is abundance of loose cellular texture, such as the anterior mediastinum or the axilla, perhaps there is less reason to calculate on the successful results of operations in such localities—at all events they are not the situations that would be chosen if there existed a power of selection." 199.

Aneurismal Varyx and Varicose Aneurism.—After noticing the occurrence and nature of these forms of aneurismal disease, Mr. Porter remarks, that perhaps there may be some fortuitous circumstances, connected with the size or the direction of a wound that may dispose to this particular result, and with which we are unacquainted, and thus the communication may be established between vessels in a normal and healthy state. But he thinks there is something in the vessels themselves, which leads him to notice a condition of artery and vein that, if it does not occasionally produce this affection, seems strongly to predispose to its occurrence. Every anatomist

is acquainted with the close adhesion that exists between the popliteal artery and vein in the adult male, an adhesion so frequent and so firm that it may almost be regarded as the natural condition of these vessels in such subjects; now, it must be quite obvious that, in the event of a perforating wound, such previously formed attachment will greatly facilitate the establishment of an aneurismal communication; and Mr. Porter has seen such attachment between the vessels in other situations, probably the result of chronic inflammation, often, for instance, in the thigh. Mr. Porter is not aware that this condition has been noticed by Scarpa, or other writers who have described the disease, they, generally, regarding it only as the result of injury, and so explaining its accidental formation between healthy vessels; but, let us admit for a moment the possibility of its being idiopathic, and such explanation must be evidently imperfect. On the other hand, in the event of ulceration attacking an artery in a spot corresponding with an adherent vein, it is not at all impossible but that a communication may thus be formed. Mr. Porter, indeed, has never seen a fusiform dilatation of an artery, the very state in which ulceration is likely to occur, that the accompanying vein was not firmly adherent to it. In the Winter of 1839-40, a case of subclavian aneurism occurred in the Meath Hospital, in which the patient died suddenly, previous to the performance of any operation; and, on examination, two separate and distinct fusiform dilatations were found, both of which were so strongly adherent to the vein as to be separated with difficulty without laceration. And, more recently still, a case of mixed aneurism of the femoral artery was examined in the same hospital, in which the vein was so adherent to the dilated artery as to compress it along the entire line of attachment, and cause the expanded portion to assume an hourglass shape.

With respect to the treatment of the affection, Mr. Porter is disposed to do little in the way of operative interference.

"If," says our author, "we shall be satisfied with preventing an increase of the tumour, very moderate compression will be sufficient; but this treatment is purely palliative, and immediately on the compression being discontinued, the varix will commence to grow again. If our aim is *permanently* to check the disease, the abnormal current of blood must be stopped, and this can only be effected by the obliteration, either of the artery or of the vein, or of both, by inflammation. Now, in seeking either of these objects, a good deal of discrimination is necessary; and I believe it will be important to modify our views according to circumstances. In the simple aneurismal varix I have already said that the mildest treatment will be the best, and I should be satisfied with such a degree of compression as would merely control the disease; but in this, as in every other form of aneurismal affection, there are circumstances that may forbid the employment of pressure at all. The varix may be so situated that compression could not be applied—in the neck, for instance, or in the axilla; or, being applied, it may occasion a degree of torture that cannot be endured; or it may produce oedema or numbness of the limb—in short, the same objections may be raised to it that have been applied to compression generally.

Dupuytren is very decided in his reprobation of pressure; he says it is very difficult to employ, very inconvenient in general, and, according to the seat of the affection, occasions dangerous swelling and intolerable pains: moreover, it is inefficacious in obliterating an old aperture, rounded off, and organized like the lining membrane of arteries and veins, circumstances in which the ligature itself almost always fails. Doubtless these observations are perfectly true—there

are cases in which compression cannot be tried, and others in which it cannot be borne, but they are very few, and in considering this point, and in testing it practically hereafter, let us attach a definite meaning to the term. Dupuytren, and the other opposers of compression, speak of it as a *curative* means—I, only as a *palliative*: they seek to stop the abnormal current of blood—I, only to moderate its force, and it is probable both parties are right. I know that, in some fortunate cases, compression has cured the disease; but, nevertheless, I should not be disposed to place much confidence in it, and would never resort to it whilst I possessed the alternative of performing an operation less tedious and less painful." 211.

An operation is more likely to be requisite for varicose aneurism than for aneurismal varix. The aperture from the sac into the vein may be less free than that into the artery, and hence the sac may increase. What operation is to be preferred? Mr. Porter observes that, according to Dupuytren, Hunter's operation always fails on account of the numerous anastomoses carrying the blood round to the seat of the aneurism; and the observation is a correct one, though not sufficiently explicit. The varicose aneurism is, as to the principle on which a cure is to be effected, precisely in a similar condition to the traumatic aneurism—that is, there is an aperture in the sac through which fluid blood can escape—the sac, therefore, can never be filled by a coagulum, or brought so to press upon the injured artery as to cause its obliteration. The Hunterian operation, then, will be a palliative, as long as it removes the impulse of the heart from the tumour; but the moment that impulse is re-conveyed, by the collateral circulation, it becomes completely useless. It may, therefore, be performed, and may appear to be successful in particular situations, but it is wholly inapplicable where an extensive collateral circulation exists—as, for instance, in the internal carotid. There only remains then the operation of cutting down on the artery, and tying it above and below the wound; an operation often exceedingly difficult. For, first, if it be possible, the vein should be spared—it ought not to be cut into, or tied, or otherwise interfered with; and it is often no easy matter to avoid it; for we know it is distended and swollen, lying in general immediately in front of the artery, so that the operator must go round it, if he wishes to reach the latter vessel in safety. Another cause of difficulty is the hæmorrhage; it is always a bloody operation when the tumour has reached to any considerable size, and happens to be opened; and, although the bleeding may not be such as to bring life into absolute peril, yet it always obscures the parts; and it is particularly difficult to obviate this source of inconvenience; for the same pressure that will control the flow of blood from the artery will encourage and increase that from the vein. These reasons will be quite sufficient to teach any operator the utmost caution in meddling with the vein. Suppose, now, that the surgeon has been able to expose the artery, he finds it almost constantly in an abnormal or unhealthy condition—very often it is dilated—always it is so firmly adherent to the vein, for an inch or more above and below the communicating aperture, that it cannot be separated by dissection, and the vein is greatly exposed to injury from the passage of the needle. Lastly, this very condition of the artery predisposes to secondary hæmorrhage; and it is a practical fact that this calamitous occurrence very often happens after this operation.

This concludes our account of the work before us. The length of that account is an evidence of the favourable opinion we entertain of Mr. Porter's observations. There is much originality in many of them, and all possess a practical value. And if we conceive that Mr. Porter is apt to look too earnestly upon exceptions, and over-rate their importance, we may possibly do him an injustice.

THE PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY, IN REFERENCE TO THE PROCESS OF PARTURITION.
By F. H. Ramsbotham, M.D. &c. 8vo. pp. 672. Churchill, 1841.

THIS work first appeared as an *Atlas of Plates*, of which we made favourable mention in our No. of April, 1840. Fortunately for the medical student Dr. Ramsbotham was subsequently induced to extend it into the form of a treatise, and the work, as it now appears, may be considered as one of the most useful treatises, taken together with the very superior illustrative plates, of obstetric medicine and surgery that we possess. In his preface, Dr. R. says, "this branch of physic, indeed, has struggled against far greater difficulties than have beset the general practice of medicine and surgery; for both ignorance and prejudice have lent their aid towards retarding its advancement. On the one hand it has had to contend with the natural prejudices that females themselves must entertain against admitting a person of the opposite sex to undertake the duties required under the trying time of labour; and on the other, with the erroneous belief that parturition, being a natural action, would be accomplished in woman with equal facility and safety as in the brute creation."

The continental universities took the lead in enrolling *midwifery*, as it is called, among their obligatory studies; and most of the British institutions of a like nature have tardily followed in their steps.

As far as the London corporations are concerned, much may be attributed to the exertions of a society established in 1826, under the title of the Obstetric Society of London. This society consisted of about thirty members, embracing, with the exception of two or three, all the then present and late lecturers on obstetric medicine in London, besides a few other practitioners; and the editor of this work acted as honorary secretary. The object of the society was to place the practice of obstetric medicine on a more respectable footing than it had hitherto enjoyed.

We well remember the exertions of the hon. secretary of that society—who, after eulogising the conduct of Sir R. Peel—then at the head of the Home Office, goes on to say—

"All the objects which the society proposed have since been carried into effect, except the change in the constitution of the council of the College of Surgeons; and thus, to the perseverance of a very few members of the profession may justly be attributed the adoption of measures fraught with the highest possible advantage to the community, inasmuch as they tend to enhance the acquirements of the great mass of English practitioners." 3.

Our author insists most pointedly and properly on the necessity of having a perfect knowledge of all the female parts concerned in the generative process to be enabled to understand the mechanism of parturition, and first speaks of the bony structure to which the soft parts are attached, and of the origin of the term pelvis, from its resemblance to a wooden utensil of the bowl form, *πελὺξ*, used by the Greeks; and described in many of the older anatomical works as the basin.

On the individual bones composing the pelvis we need not here descant, we shall only particularize such parts of each as may be more important to the obstetrician. At the junction between the ilium and sacrum is interposed a piece of fibro-cartilage, about a sixth or eighth of an inch in thickness, so that the bones are separated to that extent; and it is invariably remarked, provided the joint is healthy, that, when the ligaments are cut, and the two bones forcibly wrenched asunder after death, the cartilage adheres to the sacrum, leaving the ilium denuded. In structure it is more like the intervertebral substance than any other tissue of the body: it is arranged in concentric layers, and is softer towards its posterior edge than in the front. The object of this soft elastic pad being situated in this place is evidently to break the shock, and prevent the jarring sensation which must otherwise have been experienced, in the violent actions of the body, such as running and leaping; and it may also act as a cement in glueing these bones together.

The spinous process of the ischium is an object of more intense interest to the obstetrician than its small size would lead us to suppose; because it is sometimes of undue length, or is bent too much inwardly. By such a construction, the capacity of the outlet is materially encroached upon and diminished, and, in a proportionate degree, the passage of the child's head in labour is retarded.

The pubic bones are not in contact at the symphysis; for there is a considerable thickness of the same kind of cartilaginous matter placed between them as is found at the sacro-iliac symphyses. Some anatomists have affirmed that there is a double joint, one on each side of the central cartilage; others, that there is only one; and others, again, that although occasionally an imperfect synovial membrane may be seen, by far most frequently, neither can a cavity be detected, nor any apparatus indicative of the presence of a joint: and this latter seems to be the idea of the best anatomists of the present day. The late Mr. Joshua Brooks says he never saw an ankylosis formed between these two bones.

"The coccygeal joints are of great value in the process of labour. Their mobility much facilitates the exit of the head, by enlarging the outlet of the pelvis in the antero-posterior direction. The increase of space thus gained amounts to an inch or more; for the point of the bone may be bent backwards to a line continuous with the sacrum, or even beyond, so as to form an angle outwards.

Occasionally, indeed, the coxix becomes ankylosed to the sacrum, and its own joints also are destroyed by a deposition of osseous matter between the separate pieces, so that their mobility is lost, and the bone becomes, as it were, a portion of the sacrum itself. Such a consolidation must offer a considerable impediment to the expulsion of the head, by contracting the pelvic outlet: and this, though a rare, is therefore another cause of lingering labour. It is most usually met with in women bearing a first child late in life, and those who have been accustomed to sit through the principal part of the day." 20.

When the coccyx is in this state, it will sometimes break; either during the expulsive efforts of natural labour—or from the employment of instruments. Dr. R. says, where the bone broke or the ankylosed joint gave way—no permanent injury ensued. We have now and then witnessed considerable subsequent suffering where the junction of the bones formed an angle.

Form and Dimensions of the Pelvis.—When we examine the pelvis in reference to labour, these are of considerable importance to be attended to.

We observe that it is formed on the principle of the double arch, which structure in architecture possesses the greatest possible degree of firmness that can be devised for the quantity of material employed. So that the pelvis combines, to an eminent extent, the qualities of strength and lightness. Obstetrically it is divided into the *brim*, or superior aperture; the *outlet*, or inferior aperture; and the *cavity*, all that is embraced between these two.

The pelvis itself has two axes, one of the brim, which is downwards and backwards, following a direction from the umbilicus to the coxylal extremity of the spinal column; and the other of the outlet, which is downwards and forwards, from the promontory of the sacrum to the central space between the tuberosities of the ischia: so that a line drawn through the brim, in the direction of the axis of the brim, would cross, at a considerable angle, another line drawn in the direction of the axis of the outlet.

It is of most essential importance to keep strictly in mind the relation which the *two axes of the brim and outlet* bear to each other; when performing the most simple or complicated obstetrical operation from the mere extraction of the placenta to delivery with the forceps.

Separation of the joints of the pelvis during labour may possibly take place in the lower animals, but it is certainly not usually the case in the human subject.

Fœtal Head.—Its shape and dimensions are well delineated—and the necessity for learning the situation of the fontanelles and sutures. An accurate knowledge of the form and situation of these fontanelles is of absolute necessity for the successful practice of the obstetric art; for by them we detect the position of the fœtal head in the early stage of labour. The account of the advantages of the peculiar structure of the fœtal head, would be well worth the perusal of the too great admirers of instruments, pages 34, 35.

Of Deformed Pelvis.—The want of due capacity sometimes originates in natural formation; thus a woman of short stature, although of tolerable symmetry, might be expected to possess a diminutive pelvis; but this is far from being an universal, or even general remark. Again, the re-union of the bones after fractures will commonly occasion both distortion and contraction of space; but when there exists a deficiency of room to any great extent, the irregularity is mostly dependent on disease of the bones themselves.

“ If we look at the head of the child, and the cavity through which it has to

traverse, in a mechanical point of view, (which we must do before we can arrive at a correct knowledge of the process of parturition, even in the simplest and most easy state,) we shall immediately perceive that *size*, as regards the head and the pelvis, is entirely a relative term: and that a pelvis preternaturally small, or a head unusually large, will each in practice occasion difficulty in the same degree as they deviate from the standard dimensions; so that it matters little whether the disproportion be the consequence of diseased action or any other cause; provided it exists, to a certain extent, it must necessarily be productive of a protracted struggle." 37.

There are two diseases particularly, through which the pelvis suffers considerable deterioration in size, rachitis or rickets, a disorder of childhood—and mollities ossium or malacostion, one of adult age. In both these affections there is a want of due solidity in the osseous system throughout the body.

"Deformity may be partial or general,—partial when either of the parts, the brim, cavity, or outlet, is simply the subject of derangement,—general, when all these are more or less involved. If the vicious formation be confined to the brim, the diminution in size is almost always produced by the promontory of the sacrum jutting too far forwards, and by this means contracting the conjugate diameter; if to the cavity, by the sacrum being too straight, so that the bone does not possess its due curvature; if to the outlet, by the tuberosities of the ischia approaching too near each other; or by the spinous processes of the same bones being too long, and directed too much inwards; or again, by the joints of the coxyx having become ankylosed, and having thus lost their mobility. Of these irregularities the most frequent is that met with at the brim; the most rare, an undue straightness of the sacrum." 38.

There is a variety of deformity of which Dr. R. has given a plate from the work of M. Moreau, which much resembles the obliquely contracted pelvis described by Professor Naegele, which he says is a pelvis contracted in the direction of one of its oblique diameters, with complete ankylosis of the sacro-iliac symphysis of one side and imperfect formation of the sacrum and os innominatum of that side. This deformity M. Naegele considers to be of congenital malformation, and not the result of disease: but we agree with the reviewer in the British and Foreign Medical Review and Dr. Rigby, that the professor is not quite borne out in his opinion.

On the inutility of pelvimeters we are quite in accordance with our author—and that it is impossible to detect any deformity of the cavity with them—and therefore the hand is the most applicable for the purpose of taking the internal measurement of the pelvis, the mode of performing which he well describes.

It does not necessarily follow that the pelvis should be distorted—even where considerable curvature of the spine exists—and as a general rule it may be observed, that where the curvature of the spine occurred subsequent to the age of puberty, the pelvis is for the most part unaffected; and, on the contrary, where the curvature of the spine took place during infancy, the pelvis is, for the most part, proportionably affected. It is by internal examination alone that a decided opinion can be given of the state of the passage.

A *preternaturally* large pelvis appears to be by no means of advantage—it fails to give the proper support under many circumstances during pregnancy. From the necessarily great influence this formation of the pelvis

has on the process of labour, the whole of the chapter descriptive of it is most worthy the attentive study of the practitioner.

The female generative organs are classed in two divisions—external and internal.

The external organs need not detain us long. In speaking of the *fossa navicularis* or *concha*, Dr. R. says, it contains within its precincts the clitoris with its prepuce, the nymphæ, the vestibule, and the meatus urinarius. It seems to us better to confine things to their right names and places, and simply say it is formed betwixt the proper orifice of the vagina or (hymen) and fourchette, or joining of the labia at their lower edge.*

On the meatus urinarius, which is a part of essential importance to be well acquainted with, the natural delicacy of females not allowing of an ocular perception of the part, our author is much too superficial—neither does he describe the mode of passing the catheter—which we think ought to be done, as miserable effects have we often witnessed from the want of this knowledge; and he justly observes, “it is infinitely better to expose the patient to the inconvenience of an ocular inspection than to allow the bladder to become over-charged, to the imminent risk of its bursting, or to the no less probable chance of a fistulous orifice being formed between its neck and the vagina.”

Of the internal organs—the vagina, the uterus and its appendages, are well described.

Corpus Luteum.—“In the ovary of a woman recently pregnant, we observe, besides these vesicles, a vascular spot about the size of a large pea or small bean, containing a central cavity, sometimes empty, at others filled with coagula, the consequence of the late conception. It is somewhat fabiform, of a dull yellow tint, resembling in hue the buffy coat of the blood, and when newly exposed, slightly red. The name *CORPUS LUTEUM* was given to it by Malpighi, from its colour; it had been previously called by De Graaf *CORPUS GLANDULOSUM*, for it possesses much of a gland-like appearance. Hunter, indeed, described it as ‘tender and friable, like glandular flesh.’ Roederer compares its structure to that of the supra-renal capsules of the fœtus; and Montgomery speaks of it as ‘obviously and strikingly glandular.’ Corresponding with its situation externally there is observable a distinct cicatrix on the surface of the ovary, indicating the spot through which the fluid contained in the Graafian vesicle has escaped into the Fallopian tube. The aperture has, in some rare instances, been found still pervious, when the conception was very recent.” 66.

The corpus luteum will present different appearances according to the length of time that has elapsed since impregnation. The period of its visibility varies also considerably according to circumstances. Montgomery has found the central cavity existing in the sixth month from impregnation; and the corpus luteum distinguishable at the end of five months from mature delivery, but never beyond that time. From the observations of Dr. Paterson, indeed, (*Edin. Med. Journal*, Jan. 1840,) it would appear that positive evidence of the existence of this body is rarely met with, even three or four months after labour; so that the common idea that this is a permanent structure, and that an examination of the

* See Bell's Anatomy, Vol. III.

ovaries after death will enable us to tell the exact number of children which any woman has borne, from the number of corpora lutea existing in her ovaries, is quite erroneous.

Of the mode of its formation physiologists are not quite agreed. Dr. Ramsbotham coincides in opinion with Drs. Montgomery and Paterson in preference to Professor Baer and Dr. R. Lee, whose paper, in the 22nd Vol. of the Medico-Chirurgical Transactions, is very clear and distinct.

"False Corpora Lutea.—The remark of Haller, that '*conception never happens without the production of a corpus luteum,*' has, I believe, never been disputed; but his other proposition, that '*the corpus luteum is never found in virgin animals, but is the effect of impregnation alone,*' has been canvassed very extensively. Some physiologists have supposed that true corpora lutea, or bodies analogous in appearance to them, can be formed in the ovaries of virgins; while others have expressed themselves so vaguely on the subject, as to leave their opinions in great doubt. The possibility of such an occurrence is a question of first-rate importance in many medico-legal investigations; and consequently it is incumbent on every one who touches upon this subject to endeavour to put it in a clear light." 68.

The whole of the evidences on this point are worthy the most attentive perusal. "In advanced life, the ovaries become shrivelled, corrugated on their surface, firmer in their texture, and often contain empty collapsed cysts, with thickened, opaque coats, so strong that they can be turned out of their bed entire. These have been mistaken for, and described as, corpora lutea; but after the account already given, it must be evident that such is not the case. There is little doubt that they are Graafian vesicles altered by age."

Although the ovaries are usually described as appendages to the uterus, the uterus ought in truth to be considered as an appendage to them, for they are the most essential organs in the function of generation. The uterus may be diseased to a great extent, and yet the woman may be fruitful; but if both these glands are much altered in structure, barrenness necessarily ensues. An ovary, indeed, or something analogous to it, is found throughout the whole of the sexual genera of both animals and plants.

For the uterus, with its well-delineated nerves, blood-vessels, &c., of which we may speak hereafter, we must refer to the work itself.

The muscles within the pelvis deserve notice; for, by being pressed on during the escape of the child's head, they are sometimes strained, and pain is experienced in moving the thigh, and in evacuating the rectum, for some days subsequent to labour.

The Fallopian tubes, through which the ovum after impregnation passes into the uterine cavity, are covered externally by the peritoneum, possess a middle coat of muscular fibres which run longitudinally, transversely and obliquely (?), and an internal mucous coat, a continuation of the mucous membrane lining the uterus. It is the only instance in the body where a mucous membrane and a serous membrane join by continuation of structure, the only example of mucous membrane terminating in a shut cavity.

Analogy between the Genital Organs in the two Sexes.—Although the organs of generation appear to be widely different in the two sexes, and indeed give them their distinctive characters; yet there is seen, on closely

comparing them, a great similarity, not only in function, but even in formation; so that we cannot withhold our belief that they have both been fashioned on a common model. In many instances the confusion arising from this similitude is so remarkable, that it is difficult to decide, particularly in infancy, to which sex the individual belongs.

OF THE GRAVID UTERUS.

When we compare the unimpregnated with the gravid uterus at the end of gestation, we should be inclined to doubt—from the extraordinary alteration that has taken place during pregnancy—whether in reality they were not two perfectly distinct organs. We observe an amazing difference, indeed, in every essential attribute, particularly in *form, size, situation, texture, power, and contents*.

The alteration in *size* is most remarkable; the virgin uterus measures not more than three inches in length, and two in breadth; when labour is near at hand, it is about thirteen inches long, and eight or nine across.

The *texture* of the unimpregnated uterus is close, tough, firm, and inelastic; the structure of the organ when gravid is loose, spongy, and distensible, capable of being drawn out to a considerable extent between the fingers without laceration of its substance. The looseness of its texture depends chiefly on the enormously increased size which its vessels have acquired during the development of the organ.

We believe that a great deal of misconception exists as to the thickness of the gravid uterus in very spare women. The limbs of the *fœtus* may be grasped with the hand through the abdominal parietes and the uterus, and in a patient under these circumstances, where the labour happens to be protracted and difficult, and the presentation is so far distant as not to be felt at all, or felt with extreme difficulty, the hand or foot has been grasped so distinctly as to convey the idea to the practitioner of the *fœtus* being extra-uterine, or of rupture of the uterus having taken place, the labour eventually having terminated naturally, and well in every respect.

“The section of the unimpregnated uterus displays an unoccupied cavity, communicating by an open mouth with the vagina below, having, therefore, properly speaking, no *contents*; while the gravid contains the *membrana decidua*, and the *ovum*; which latter consists of the *chorion*, the *amnion*, the *liquor amnii*, the *placenta*, the *funis umbilicalis*, the *fœtus*, and, in an early stage of pregnancy, the *vesicula umbilicalis*.

On opening the gravid uterus, besides the spongy character of its structure just adverted to, and the large size of its vessels, (which have acquired such a magnitude, that the veins have the term sinuses applied to them,) its thickness must necessarily become an object of observation. This varies considerably in different individuals; the substance is generally rather thicker than in the unimpregnated state; and in all instances the fibres are more apparent.” 81.

Membrana Decidua or Caduca.—These names were given to the membrane by Dr. Hunter (who was the first to demonstrate its two laminæ) in consequence of its being shed from the uterus after labour, with other discharges. He also called the outer layer the *decidua vera*, and the inner *decidua reflexa*. We prefer the terms employed by Dr. R. Lee, *decidua uteri* and *decidua ovuli*; because their adoption merely describes the situation and connexion of the two laminæ, and does not involve any theory as to

the formation of the inner layer, about which there is still considerable doubt. Of late it has been described by Chaussier under the title *epichorion*, from *επι*, above, and *χωριον*, the external ovular membrane; by Dutrochet *epione*, from *επι*, and *ων* the ovum: by Breschet *perione*, from *περι* around, and *ων*: and by Velpeau *anhiste*, from *α* priv, and *ιστος*, a web. Velpeau uses this term to signify an inorganic substance, since he denies the organization of the membrane at any period of pregnancy.

The deciduous membrane is divisible into two layers, both together being not thicker than the nail, and is flocculent on that face which is attached to the uterus, smooth and plane on the one next the ovum; so glossy, indeed, that it might be supposed to possess serous properties.

In the early part of pregnancy, the two layers are separated from each other, especially towards the fundus uteri, by a quantity of red coloured fluid, partly serous, and partly half coagulated, to which *Breschet*, who designates it sero-albuminous, has given the name *hydropерione*. As gestation advances, this fluid is gradually absorbed, and the two laminæ come into close contact at every point, except where the placenta intervenes between them. This membrane is a product of the uterus, and does not originate in the ovum.

Hunter called the internal layer the decidua reflexa. Its value appears to be principally if not entirely confined to the first five weeks of pregnancy.

It is subservient both to the nutrition of the embryo, and to the preservation of its vitality; and thus, before the elaboration of the placenta, it seems to perform for the new being, functions analogous to those which, in an after stage, are carried on by the placenta itself.

Chorion—is a constituent part of the ovum from the remotest period of conception, because in extra-uterine pregnancy we find it, not in the uterus, as the deciduous membrane is, but enclosing the embryo itself. It possesses no blood-vessels evident to the naked eye; but we cannot deny its vascularity, since it is subject to disease, and in many of the mammalia may be readily injected.

Within the chorion is the amnion, another very thin, transparent, and tough membrane, in structure and appearance so similar to the chorion, that it is almost impossible to distinguish the one from the other. It is destitute of coloured vessels, but it too must possess vascularity; because, like its twin sister, it becomes thickened by disease, and because it enjoys in an eminent degree the power of secretion. Its use is exactly analogous to that of the chorion, so far as affording a covering to the ovum is concerned; but it performs an additional distinct function in the secretion of the liquor amnii.

The relative proportions between the quantity of liquor amnii and the size of the embryo differs much at different stages of pregnancy, being considerably greater in the earlier periods, and less at the advanced stage. Thus, when the embryo is scarcely visible to the naked eye, there is from half a drachm to a drachm of water collected within the membranes.

The origin of this fluid, liquor amnii, has given rise to much controversy. It is now generally regarded as a secretion or exudation from the inner surface of the amnion, supplied by innumerable colourless vessels, which ramify on that membrane.

Placenta.—Of the foetal appendages—all of them highly essential towards the well-being of the ovum, either at the early or more advanced period of intra-uterine life—the placenta is perhaps the most important;—the medium of communication between the mother and her infant;—the organ through whose means life is sustained, nourishment supplied, and growth perfected.

"Twin placenta."—In plural gestation a separate placenta, a separate funis, a distinct set of foetal membranes, and a distinct quantity of liquor amnii, are formed for each child. The placenta are commonly joined together at their edge, and when regarded on the maternal face, they have the appearance of a single organ. But the vessels of the one do not anastomose with those of the other;—the circulations are perfectly independent; so that the blood of one child does not pass into the system of its brother. One of the twins may, therefore, still live after the other has died;—one may be healthy while the other is the subject of disease.

It occasionally happens, indeed, that a communication exists between the vascular systems of the two children, though they are both enveloped in separate membranes; and it has been also, though very seldom, remarked, that both were wrapped up in the same bag of membranes; and that the funis, having arisen by one branch from the single placenta, has split into two divisions to supply each fetus." 94.

That the same set of foetal membranes envelops twins we believe is more frequently the case than our author considers, and this circumstance has more recently been remarked in cases by Mr. Gregory Smith, Dr. Henry Davies, and Mr. Dodd, of Northampton; yet in each and all of these cases the vascular circulation of each foetus was perfectly distinct and independent of each other.*

Battledore placenta, or where the umbilical cord passes into the placenta at the edge; or where the vessels divide into a number of branches before they arrive at the substance of the mass, is of importance in practice.

The funis umbilicalis, umbilical cord, or navel-string, varies much in length; in some instances not exceeding six or seven inches; in others being more than five feet. Its average length may be regarded as from eighteen to twenty-four inches. It varies also in thickness, and this depends on the larger or smaller quantity of a viscid semi-transparent gelatinous matter, —the gelatine of Wharton—contained in cells, which constitutes the principal part of the thickness of the cord. These cells do not communicate with each other freely.

The funis gives a passage to three blood-vessels—two umbilical arteries and one umbilical vein. The arteries are longer than the vein, being considerably more tortuous; and they generally continue their course in a spiral direction, running round the vein; in the majority of cases being twisted from the left to the right.

The vein is much greater in its calibre than the two arteries together; but as the latter vessels are perhaps twice the length of the vein or more, the quantity of blood actually contained in the two arteries at one time may be nearly the same as in the vein.

The vein possesses no valves; and the arteries do not communicate

* See Medical Gazette, May, 1841.

with each other until they reach the placenta; when one generally sends off a large transverse branch to the other. The arteries carry adulterated blood from the body of the fœtus to the placenta, and have a very strong pulsation; the vein carries back again to the fœtus, pure blood imbued with the principles of both vitality and nourishment. In some respects, then, these canals may be likened to the pulmonary vessels; but the umbilical vein, by transmitting the means of growth, as well as of the continuance of vitality, performs an office superior in value to the pulmonary veins, which give passage to fluid fraught with the principles of life alone.

When the embryo is first visible, in the earlier weeks of utero-gestation, we see nothing like a funis umbilicalis; but the newly-formed being is attached by its abdomen directly to the amnion.

Urachus.—In the quadruped, besides the blood-vessels, there is another pervious duct running along the funis, called the Urachus. In the human subject there is no duct; but an impervious cord runs up from the fundus of the bladder, and is lost at the umbilicus.

The *Vesicula Umbilicalis*, or *Vesicula Alba*, constitutes also a part of the ovum in its early stage. It is a small sac, not larger at its greatest magnitude than a pea or swan-shot, situated between the amnion and chorion, possessing a pellucid coat, and enclosing a small quantity of viscid transparent fluid, whitish, or more generally rather of an amber colour.

The Fœtus.—At the end of gestation the fœtus ordinarily measures about twenty inches from the crown of the head to the heel, and weighs nearly seven pounds: but there is an amazing difference in both these respects, particularly the latter; and the size is influenced by circumstances not very easily explained. Generally speaking, males weigh more than females by one or two ounces, and are longer by a third or half an inch. Some children at full time have been known to weigh even less than five pounds; while many cases are on record where the weight exceeded double the average. Some to the extent of nearly eighteen pounds, of which weight we have seen one.

The position of the fœtus is well described and depicted.

Development of the Uterus.—The uterus is constantly enlarging during the whole term of gestation, and its increase corresponds with that of the ovum; so that its growth towards the close of pregnancy is comparatively greater from week to week than at any other period. The fundus and body are first evolved: and the neck does not begin to expand until five full months have passed.

The parietes do not become thinner as the uterus grows, but in many instances absolutely thicker. They are not distended by their contents as a bladder might be blown up; and the cavity is never so completely filled, but that it would hold somewhat more than it contains. The enlargement is dependent on a process of healthy evolution.

“Great as is the increase of the womb in its general bulk, the blood-vessels undergo an enlargement even far more considerable in proportion; and this is explained by the fact that they have not only to nourish the parietes, but also to supply the wants of the growing fœtus. It is this circumstance which renders

the texture of the gravid womb so loose and ductile : and the amazing diameter they have acquired before labour commences, most readily accounts for the violent hemorrhages that not unfrequently attend on parturition.

This alteration in the size of the blood-vessels mainly contributes to the increase of the uterine parietes ; there is nevertheless an additional quantity of both cellular and fibrous matter secreted, as the evolution proceeds. The nerves and absorbents also partake of the general enlargement ; though not to so great a degree as the blood-vessels." 104.

Dr. Robert Lee in his anatomy of the nerves of the uterus remarks, Dr. William Hunter was the first anatomist who examined the nerves of the gravid uterus, and who says, I cannot take upon me to say—what change happens to the system of uterine nerves from utero-gestation, but I suspect them to be enlarged in some proportion, as the vessels are. Mr. J. Hunter who denies that the nerves of the uterus increase in the smallest degree during pregnancy, has left no preparations to demonstrate the accuracy of his statement—thinks that the intense pain and violent periodical contractions do not depend on the nerves, but on some incomprehensible vis insita on the organ. Dr. R. Lee, after quoting his own excellent dissections so well portrayed in his plates, says, these dissections prove that the human unimpregnated uterus possesses a great system of nerves, which enlarges with the coats, blood-vessels, and absorbents during pregnancy, and which returns after parturition to its original condition before conception takes place. It is chiefly by the influence of these nerves, that the uterus performs the varied functions of menstruation, conception, and parturition, and it is solely by their means that the whole fabric of the nervous system sympathises with the different morbid affections of the uterus. If these nerves of the uterus could not be demonstrated to exist, its physiology and pathology would be completely inexplicable.

Dr. Ramsbotham describes well the alteration in the relative situation of the uterus,* both with respect to itself and its peritoneum, on the adjacent parts, and says the peritoneal covering is of necessity greatly extended in surface ; and this depends partly on the formation of new membrane, a fresh secretion,—partly on its allowing itself to be stretched out in every direction, (for it is highly elastic, as is shown in the variations of contraction and distention which the stomach, intestines, and bladder, are constantly undergoing, and in the descent of that portion of the membrane which constitutes the sac in hernia ;)—and partly on the layers of the broad ligaments splitting, and receiving the sides of the uterus between their folds ; and plates 19, 30, 31, and 32 are excellent.

LABOUR OR PARTURITION.

These simple terms designate a very complicated process, embracing the dilatation of the passages, as well as the expulsion of the ovum.

The principal agent in labour is the uterus itself ; but it is much assisted in its action by the contraction of the abdominal muscles, and probably also of the diaphragm.

Under labour the fœtus is perfectly passive : so that a dead child is expelled, generally speaking, nearly with the same ease as a living one.

* This is well portrayed in Meygner's plates.

The action of the uterus is perfectly involuntary, and consists in a contraction of the fibres embedded in its structure, which indeed form its peculiar parenchyma.

But the auxiliary muscles which assist the uterus in its contractions are in a great degree voluntary; so that labour may be said to consist of a mixed action; partly of a voluntary, but principally of an involuntary character: for the aid which the woman contributes by the exertion of her own will is not to be compared to the propelling power of the uterus, which is entirely independent of her control.

The *general features* of labour are the same in all cases, but there is an infinite diversity in the details.

After enumerating the symptoms of labour, Dr. R. says,—But of all the symptoms announcing the access of labour, pain is the most prominent.

Pain has three sources—one dependent on the simple action which, like the spasmodic contraction of muscles, is attended with suffering—another, that of opposed propulsion—and the third, that of distention of the passages.

False pains are asserted to be more frequently met with in primary pregnancies than afterwards—our own experience would lead us to doubt this, and among the causes of false pains we think might be added the gravitation of the uterus into the brim of the pelvis—where it gets jammed or wedged as it were.

Many a day and night have been spent in anxious watching over a patient, to the great inconvenience of the practitioner, to the destruction of his rest and health, and perhaps to the detriment of his professional character, when there was not the slightest necessity for such close attendance, simply because the patient would not acquiesce in the requisite examination being made.

We should say that no practitioner should remain with a patient under these circumstances—he should state to her firmly and civilly that an examination is important, either for her comfort, that he may be enabled to assure her that appearances are all favourable,—or in the event of there being anything untoward in the case requiring assistance (as preternatural presentation of the upper extremity) that he may be prepared to give it his immediate attention—should the patient then not submit to the necessary examination, he should, with all the kind consideration a patient so situated is entitled to, say that, as she is not sufficiently ill to require his attendance, he will go home, or to visit his other patients, as the case may be, and will return to her when sent for; for, by remaining with the patient he becomes responsible for the well-conducting of the case, and how can he do so in one of the progress of which he knows nothing about. If our memory fails not, the late Dr. Rigby, in his work on uterine hæmorrhage, mentions the case of a patient who would not admit of interference till it was too late to turn the fœtus with advantage, and she died.

Classification.—For practical purposes labours may be conveniently divided into—1st. *Natural.*—2nd. *Difficult.*—3rd. *Preternatural.*—4th. *Complex.*

We believe, for all practical purposes, this division is one of the best

that can be made. Dr. R. enters very largely into the consideration of the division made by other authors, to which we refer the reader.

Labour is described as consisting of three stages : the first terminating with the opening of the os uteri to its full extent, the rupture of the membranes, and the evacuation of the liquor amnii ; the second, with the birth of the fœtus ; and the third with the expulsion of the placenta. We might with some show of reason add a fourth stage, considering that to end with the complete closure of the uterine vessels, and the stoppage of every chance of hæmorrhage : but as this last might continue throughout the whole puerperal month, or longer, it may be as well to follow the more ordinary usage, and to regard labour as terminated on the removal of the placenta.

Much knowledge must be acquired during the first vaginal examination : it is, first, whether the woman be pregnant ; secondly, if she be in labour ; thirdly, whether the membranes have ruptured, or are still entire ; fourthly, how the child is presenting ; fifthly, how far the labour is advanced ; and sixthly, the state of the os uteri, vagina, and perineum, in regard to their distensibility ; we might add seventhly, the dimensions of the pelvis.

“The object of covering the finger with some oily substance before making an examination, is two-fold : partly because the lubrication assists its introduction, but partly also to diminish the chance of inoculation with morbid matter, should the patient be labouring under any venereal affection. Three of my intimate medical friends have suffered most severely from secondary symptoms of syphilis communicated in this manner ; and five different midwives of the Royal Maternity Charity have been the subjects of the same disease, contracted through an abrasion of the cuticle, while in attendance on women in labour. These are grievous accidents, and no means should be left unused, by which such a serious consequence may be avoided. If, unfortunately, a suspicious-looking sore should make its appearance on the finger, all obstetric duties must be abandoned until after it is healed ; for another woman may be infected from the contact of an open chancre on the hand of the medical practitioner.” 157.

We recommend this note to attentive observation.

With regard to aperients after delivery, we have deemed it preferable to direct an enema to be administered in due time after the *second dose*—as where a repetition of doses has been persevered in, injurious purgation has often been the result ; but we must not be understood as by any means allowing an enema to supersede the exhibition of an aperient.

We strongly recommend this division of symptoms—progress, mechanism, management, and after-treatment of natural labour to the attentive perusal of the student in particular ; for, without an accurate knowledge of all the circumstances connected with that state, no man can practice with comfort to himself or benefit to his patient, neither can he be adequate to the management of any untoward case that may come under his care. For this reason, also, we consider that to practice well in particular or difficult cases, a man should be an universal practitioner in midwifery.

Difficult Labour.—The second class of labours, DIFFICULT or LABORIOUS, embraces two orders, *lingering* and *instrumental*.

We sometimes hear of a woman being in uninterrupted labour a week, ten days, a fortnight, or even longer. Such an idea is perfectly absurd :

the powers of the system could not bear up against the exertion of labour for so protracted a period.

Such cases, then, of reputed prolonged parturition, are dependent on false, irritable, spasmodic pains, situated in some other part of the body; by which, as we have already learned, women are frequently harassed towards the close of gestation; but which are perfectly unconnected with, and independent of, contraction in the uterine fibres.

In estimating lingering labours, we calculate from the first commencement of true uterine action; but in estimating the length of labour, in reference to the patient's strength, and its effects on her system, we principally take into consideration the time that has elapsed since the membranes broke; for it is reasonable to infer that no great exertion has been sustained—consequently that little or no exhaustion has appeared; and particularly, that scarce any injurious pressure can have taken place on the soft parts within the pelvis, while the membranous cyst remained entire; provided there be an ordinary quantity of liquor amnii.

Insufficient Uterine Action.—After speaking of different means applicable for rousing the uterine energies, Dr. R. goes on to say:—

“Various specific medicines have been recommended at different times, to increase the parturient throes, and facilitate the child's birth; but I believe that the whole of these substances, one only excepted, act upon the womb through the excitement induced in the arterial system. They first stimulate the nervous, then the arterial, and through the medium of those systems, the uterus. Almost the only medicine now used as an uterine excitant, is the *ergot of rye*: and I have no hesitation in declaring my opinion that its action is specific, and that the uterus is not affected through any disturbance first set up in the arterial system.” 217.

“This drug has been exhibited in various forms, chiefly in powder, infusion, decoction and tincture. The two first are in my opinion the best modes. If given in fine powder, about twenty grains is the proper dose; but I am myself generally in the habit of exhibiting it in infusion. Two drachms may be infused in four or six ounces of boiling water for twenty minutes; a fourth part of the strained liquor should be given at a time, and under labour the dose may be repeated every quarter of an hour, until either its action becomes apparent, or the whole is taken: for I consider it useless to persevere with the medicine, if the quantity mentioned produces no effect. I have found that if the infusion be allowed to stand much longer than the time I have specified, it acquires a nauseating property which greatly distresses the stomach. Desgranges used only the black cortical part, in which he considered its active principle to reside: he gave it in doses of four or six grains, which he found as efficacious as thirty grains of the whole powder. Villeneuve administered it in *lavements*; and he considers this the most efficacious means of employing it, provided there be present much irritability of the stomach.” 219.

Dr. R. is not aware of the ergot ever having produced any pernicious effect on the system, and some individuals are not affected at all by it. Its effects upon the uterus in labour are often speedy, powerful, and astonishing. Its action mostly commences within fifteen or twenty minutes after its exhibition, and the character of the pains is peculiar. When the ergot has obtained a full power over the system, the uterus often acts without any decided intermission for many minutes together; there being only a slight remission observed—no interval of perfect ease.

As the ergot undoubtedly possesses such a strong influence over the uterine system, it is evident that, if exhibited improperly, it is likely to do great injury.

It ought never to be exhibited where there exists any disproportion between the fœtal head and pelvic cavity. Where there is any rigidity of the parts, or in malposition of the head, or in preternatural presentation, or in first children generally.

"It must only be given in cases where the sole cause of delay is a torpid or feeble state of uterine action: or where it is desirable to terminate the labour speedily,—and that too by means of the natural powers, in consequence of hæmorrhage. I have found it very useful in accidental hæmorrhage after the membranes have been ruptured; in loss of blood under abortion also, where it was impossible to empty the uterus by manual operation; and where the patient would perhaps have sunk from the continuance of the bleeding."

We cannot conclude the remarks on the exhibition of the ergot of rye without entering our most solemn protest against its abuse; miserable are the effects we have witnessed from its mal-administration, and that when given by individuals in extensive practice. We earnestly recommend the perusal of the cautions laid down so well by Dr. Ramsbotham, and we implore every practitioner to consider well on the case and of the effects of the medicine before he exhibits it. We have little hesitation in saying, after a pretty extensive experience both in private practice and in public institutions—that more harm than good has been done by the ergot. And as to its superseding the judicious application of the forceps except in cases of simple arrest from defect of pain, we believe it quite out of the question. We nevertheless consider the ergot of rye a most useful and powerful agent in very many cases, when used with due consideration and caution.

Among other adjuvants in lingering labour, Dr. R. recommends—stimulating enemas, warmth externally, also pressure and friction are found to possess greater power over the uterine fibres than warmth externally applied. The pressure of a bandage, or the hand, will often excite the uterus to increased action both before and after the birth of the child.

He also mentions the advantage of change of position, walking, &c., and of the possible utility of electrical shocks, and cautions against the early rupture of the membranes—or rubbing the os uteri.

The second cause of lingering labour embraces those cases in which the uterus is acting powerfully and energetically, but where there is a want of due and proportionate space in the passages for the ready exit of the child: and of these causes, *distortion of the pelvic bones*, as being one of the most frequent and difficult, claims our first attention.

Of the Cæsarian operation, he says, if performed at all, it ought to be performed early—and mentions the works of Mr. Barlow and the operation of Mr. Knowles. We think much useful information will be found in the work of Dr. Hull of Manchester.

We have never seen a case of distorted pelvis requiring this operation; nor, except in large manufacturing towns, where girls from their birth are distorted, we believe, in this country do such cases occur. The Doctor's remarks on this subject will be perused with advantage.

The second variety of lingering labour, or jammed head, will be noticed hereafter.

The third variety of lingering labour is the *presence of tumors* in the cavity of the pelvis. The tumors which may impede parturition vary exceedingly in their nature, consistency, and size; sometimes they possess the solidity of bone itself; at others, their contents are of the most fluid character. According to their size and unyielding nature, will be the difficulty which they occasion.

After mentioning exostoses, scirrhus or dropsical ovary, scirrhus glands, polypi, with their diagnosis and treatment, we come to descent of the bladder, which sometimes prolapses before the head.

Much embarrassment, and no small danger, may be the consequence of the case being overlooked or mistaken. This usually occurs in the early period of labour, before the head has engaged in the pelvic cavity, and depends on pressure exerted by the descending head upon the fundus, or middle portion of the organ, at a time when it is partially distended with urine.

The symptoms attendant on prolapsed bladder are very distressing; and are to be relieved by the introduction of the catheter. Our author adds—keeping in mind the possibility of the bladder being pressed downwards as described, it is an essential duty never to puncture any fluctuating pelvic tumor, without being first assured that it is not vesical, by the removal of the urine by means of the catheter.

A fourth cause of lingering labour consists in rigidity of the soft parts: under this head are some valuable remarks and details of some interesting cases. Where the rigidity is the result of disease, as common rigidity, independent of diseased structure, is more usually met with—we think it should have taken precedence. With regard to the utility of abstraction of blood and the administration of opiates in rigidity of the os uteri, we have found the combination of the two remedies very valuable; and, where it was of importance to produce the effect with as little loss of blood as could be to our patient, we have bled the patient while she is standing if possible, otherwise sitting upright—by this mode fainting is more speedily induced—this followed by the exhibition of a large dose of tinct. opii, (or an opiate enema as may be best suited to the case); by these means the parts become relaxed, and the pains completely suspended, and perhaps succeeded by some tranquil sleep, from which, when the patient arouses refreshed, the parts often give way readily to the renewed pains. We have found this practice eminently useful, in preternatural presentations of the upper extremities, combined with violent labour-pains, when it was extremely hazardous or impossible to turn; and also in cases where the *secale cornutum* had been injudiciously administered: for the most part, we prefer the opiate given by the mouth, as the administration itself of the enema excites local action, or the enema is not retained long enough to take effect.

Enemas of tobacco, common enemas, application of belladonna, mucilaginous injections, warm bath, nauseating doses of antimony, emetics, are severally treated of. Meddlesome practice and other injudicious interference, and particularly the mal-administration of the ergot of rye, are strongly deprecated, and some additional milder means spoken of: one

principal use, however, of these latter means is to gain time, so as to allow the natural powers an opportunity of exerting themselves efficiently, and at the same time to convince the woman that our mind is directed towards affording her relief, and thus, both hope and confidence are inspired; and perhaps greater advantage gained, than by any of the more positively useful attributes of these applications.

The observations on cicatrix of the vagina as a cause of lingering labour are worthy of attention.

Lingering Labour from Causes referable to the Ovary.—Preternatural toughness of the membranes is by no means a usual cause of lingering labour; it is by far more common for a premature rupture of the membranes to produce a protraction of the process. If, however, the membranes are exceedingly strong, as they occasionally are, with due caution and considerations which are laid down, they may be ruptured.

Head preternaturally enlarged from healthy formation, monstrosity or disease (particularly congenital hydrocephalus).—We most earnestly recommend to the attention of the reader the whole of this division of the causes of lingering labour, and also that caused by distended bladder. Most miserable have been the results that we have been witness of to patients under these circumstances, as rupture of the uterus—death immediately after delivery—or what is almost worse than death, a life of torment from sloughing of the parts, cysto-vaginal fistula, &c.—when we believe, in one and all the cases, the event might have been prevented by timely assistance; for in all these cases we believe we are for the most part able to save our patients. We may therefore forcibly express, in the words of our author, with regard to enlarged head:—

When we have ascertained that nature is unable to overcome the difficulty except at a great expenditure of power, conjoined with imminent risk to the woman's life, we are fully warranted in having recourse to perforation more early than if the child were healthy, that the fluid may be evacuated, and an opportunity afforded to the bones to collapse; the case will then most probably be terminated by the contractions of the uterus alone.

Instrumental Labour.—Although in skilful, and especially discriminating hands, obstetric instruments must be regarded as great blessings to the suffering sex, yet it is a question with some practical men, whether by their unnecessary and improper use they have not produced on the whole more injury than good. But we would endeavour deeply to impress upon the mind of the young practitioner that urgent necessity alone will warrant him in taking an obstetric instrument in hand: and that when a choice is allowed him, he should leave nature to accomplish her own purpose, provided, indeed, he can with safety trust her.

The whole of the directions as here laid down, are deserving of great attention. With regard to the position of the patient, it is of great importance to the success of the operation;—we have found it of great advantage, in order to keep the patient in the position directed, to have a female attendant set on the bed with her back close to the patient, and her feet towards or pressed against the opposite bed-post—this person may

also separate the patients knees when required; the patient may pass her arms round her if she chooses: these arrangements steady the patient well and preserve her from jerking away at the moment when it may be of considerable importance for the safety of the soft structures.

The variety of the form of the short forceps the practitioner may prefer (if judiciously used) is not of serious consideration. Our author remarks on the comparative safety of the one over the other; for our own part we prefer decidedly those, with a convex edge to each blade, of Osborn. The addition of a pin in the *middle* of the one handle, which is received into a deep groove of the other, and which keeps the handles in apposition while not acting during the intervals of pain, is an improvement. We have reason to believe that the forceps are still too frequently and injudiciously applied. Where the head is so jammed as to render the preservation of the infant's life impossible, we have no hesitation in saying, that the operation of craniotomy, horrible as it is, is the safer and more appropriate operation: for we would ask, what advantage is it to the patient, after all the suffering she has undergone, to have a dead child, with her parts contused (if not lacerated) and the consequences resulting from it. No practitioner with moderate care ought, by the operation of craniotomy, to inflict the least injury on the mother.

With regard to the time of using the short forceps in cases where they are required and applicable, we think it infinitely safer to apply them early than to procrastinate until the chance of preserving the infant is doubtful, and of the parts being contused certain. Dr. Hamilton (*Practical Observations*, Part II.) says, "cases requiring the use of the forceps occur so seldom when the first stage of labour is properly conducted, that, in the course of forty-eight years' practice, he has only had occasion to employ that instrument thirty-three times, where he had charge of patients from the beginning." He further says, no intelligent practitioner would wait in cases where the labour throes cease to have any influence in advancing the delivery, if the head of the infant be within reach of the forceps, till there be "heat or tenderness of the passages," and still less till "the patient's strength be much exhausted." Again, the principle by which he has always been directed in cases of protracted labours, to which he has been called by other practitioners, has uniformly been to consider the state of the mother principally, but not exclusively. Thus, if immediate delivery be required, he always ascertains whether the use of the forceps be safe, for if there be any evidence that there has been injurious pressure upon the passages, he considers it to be unwarrantable to employ that instrument.

The extraordinary difference which prevails in the practice of obstetricians of different countries in the frequency of using the short forceps is forcibly pointed out in a paper by Dr. R. Lee, in the *Medical Gazette*, Vol. 24, Sept. 1839, p. 827-8.* The long forceps we consider so hazard-

* While penning this note, a midwife belonging to one of the most extensive lying-in charities in London, and who has also a very considerable private practice—upwards of ten years came in; we asked her how many forceps cases she had seen? She answered—none!

ous an instrument that no practitioner, unless he was very much accustomed to operative midwifery, would venture to use them. We forbear saying more of them than cautioning against their abuse. (We should like very much to learn how many infants' lives have been preserved by them without materially injuring the patient's structures). We are disposed to recommend the guarded crochet, for our left hand has more than once suffered from slipping of the crotchet, with due attention to all the rules laid down by Dr. R., and we also use a craniotomy forceps—but rather lighter than the one recommended by Dr. Holmes, and which we find most useful.

Induction of Premature Labour.—The arguments on this subject, pro and con, are well defined. We have tried all the plans laid down by Dr. R. with variable success, but for the last ten years we have for the most part preferred puncturing the membranes high up, and letting off a small quantity of liquor amnii, with an instrument of Dr. Holmes's somewhat modified, consisting of a canula slightly curved at the end, having a wooden handle, the whole about thirteen inches long, and containing a concealed flexible trocar, moved by a spring at the end of the handle. The patient having had her bowels well emptied by a brisk purgative or two, —the os uteri being somewhat dilated by the finger—the instrument, guided by the finger, is carefully introduced as far within the uterus (mostly at the posterior part) as it conveniently can be, between the uterus and membranes; having ascertained that the point of the instrument is opposed to the membranous bag of fluid, the handle is carried in the opposite direction and the spring pressed on, by which the trocar is projected out, and the membranes pierced, a moderate quantity of fluid (liquor amnii,) from 3ss. to 3j. is allowed gradually to escape by the side of the instrument, which is then withdrawn; the patient is desired to go about as usual, or rather to take a walk, the liquor amnii continues to dribble away, uterine action is at length induced, and the majority of children are born within seventy-two hours from the time of puncturing the membranes.

Of the advantages of dilating the os uteri with sponge and lint, we have had no experience.

The greater number of women, as Dr. R. observes, are not able to nurse their children, but we have had several patients who have done so very efficiently.

We most fully agree with the Dr. that this operation should never be performed (unless from very cogent reasons, and confirmed by a consultation) in a first pregnancy.

In difficult breech presentations Dr. R. objects to the inapplicability of the forceps, says, "the instrument not being made for the breech, but for a more globular body, does not fit that part, and is liable to slip, to the great hazard of the mother's structures. The only way, indeed, by which we can cause the blades to keep their hold at all, is by squeezing the handles firmly together, so that the points may take a deep nip upon the foetal body; and the youngest student in anatomy would at once call to memory important organs likely to suffer severely from this rude pressure." Either of the three modes, the use of the finger, the application of a handker-

chief, or of the blunt hook, if the former two are not applicable, is to be preferred; and in this we cordially agree.

In transverse presentation, after describing very accurately the diagnostic symptoms of the different varieties, and the modes of affording assistance, directions are given for the position of the patient (p. 433) which is of the utmost importance to the satisfactory performance of the operation, (we have seen very able practitioners fail from inattention to this,) and for the necessity of baring the arm is insisted on, (which in some works we have been astonished to see as not required,) turning with the left hand is advised, and, among other reasons, that the right may be applied to steady the uterine tumour. It is no doubt of great advantage to be able to use either hand as may be requisite, but of the steadying of the tumour with the right applied on the abdomen we are somewhat sceptical—we believe that the patient is better steadied in the manner we have described for delivering with the short forceps. Before drawing down the part of which we have hold, we are most forcibly and properly cautioned to take care that we have a foot and not the hand. He also says, I think it highly desirable that both feet should be taken hold of, if they lie together and can be commanded by the same effort, because the evolution is so much more easily accomplished when both are brought down; but if one only be obtained, it is neither necessary nor proper that we should spend time, and inconvenience our patient, by searching for the other.

Mr. Barlow's note is a very useful precaution—that "on all occasions when the introduction of the hand into the uterus is required, it is necessary that the contents of the bladder and rectum be previously emptied."

Notwithstanding the Doctor's dissent, we have frequently in arm-presentations (where it has been impossible, by any warrantable exertion, to introduce the hand into the uterus, from its strong contraction and energetic pains) succeeded after a copious bleeding, and a large dose of tinct. opii, in bringing down the feet; and, unless other symptoms required it, we have left them there till the uterine action was restored, and then with very moderate assistance the infant has been expelled.

We have now and then in arm presentations, where the head was in the vicinity, by pressing up the presenting part, enabled the head to come down; and by keeping up the presenting part with the points of the fingers till the head was fully engaged, the labour has terminated naturally, and the infant been born living.

Dr. R. has described faithfully and accurately, with the aid of the plates, the symptoms and management of the breech and transverse presentations, cautioning against meddling practice on the one hand, and recommending, on the other, energetic practice where such was requisite. This division of the subject is written with a masterly hand.

Complex Labour.—Hæmorrhage during labour is by far the most frequent source of danger to the lying-in woman; and since it is so common in occurrence, so alarming in its nature, and fatal in its effects, this accident calls for the most anxious and serious attention. All profuse hæmorrhages during parturition, and towards the close of gestation, are to be regarded as originating in a partial detachment of the placenta from the

uterine surface, and the consequent opening of a certain number of vascular orifices. It is surprising to notice how slight a degree of depression will follow an excessive flooding in some women: and how small a discharge will destroy others. We have known two women die from the eruption of scarcely a pint of blood; and we have seen others recover perfectly when they have suffered the loss of some quarts. Hence we are to be influenced in the immediate measures we put in practice more by the effect on the constitution than by the apparent quantity of blood lost.

Dr. R. considers the various means used for arresting hæmorrhage generally, and then the treatment more particularly applicable to uterine hæmorrhage during labour, which he divides into *unavoidable* and accidental hæmorrhage. In the management of unavoidable or placental presentation, absolute and uninterrupted quietude in the horizontal posture, and on a hard bed, must be forcibly enjoined, and an anti-hæmorrhagic regimen prescribed; she must breathe a cold atmosphere; be but lightly covered; her diet must principally consist of nutritious fluids—cold and acid drinks may be given almost *ad libitum*, and ices may be allowed, unless they produce intestinal pain or shivering: every thing stimulating, both alcoholic or of any other nature, must be strongly forbidden. The mineral acids, under such a case, may be usefully employed; some gentle aperient will be required, and the acidulated infusion of roses, with small doses of sulphate of magnesia, is perhaps the pleasantest, and, at the same time, as efficacious a medicine, as any that can be exhibited. We must avoid a constipated state of bowels; because the straining necessary for the passage of hardened fæces may dislodge the coagula collected over the exposed vessels, and produce a return of the flooding. We must equally, also, avoid violent purging, lest the frequent evacuation of the rectum should occasion a like disaster. A cold enema may be administered daily, which will probably act beneficially in two ways,—both by clearing the rectum, and restraining the hæmorrhagic tendency.

The Doctor has little faith in the power of opium to suppress hæmorrhage—and thinks that the milder narcotics, as henbane and hemlock, are equally useful in tranquillizing the excited state of the nervous system—without diminishing the uterine energy. But, the Doctor says, a time will arrive when the features of the case will be changed; and the delivery of the infant must be resorted to—the reasons for which, the appropriate time and mode of performance, are fully discussed. For the purpose of controlling the hæmorrhage until the time for delivery arrives, we consider the plug a most valuable remedy, and the best material for the purpose, a soft moistened sponge pressed close to the os uteri. The advantages of this our author does not seem fully to appreciate. When the time for delivery does arrive, there is no case where, as he well says, procrastination is so prejudicial, and promptness in the execution so absolutely necessary to the patient's safety, for she is on the very brink of a precipice. We have passed our hand through the placenta repeatedly—without any of the disadvantages the Doctor enumerates—and in accordance with his reasoning, p. 482, “that in every increase of a line's diameter (in the placenta's detachment) there will be an increase of bleeding.” If we are quite sure which is the nearer way to the edge of the placenta, his rule is no doubt the better one. Promptness in determination to act

does not imply *hurry* in the execution. We are told, most pointedly and correctly, (p. 483,) "that our hand must be passed slowly and carefully onwards; and again, that rapid extraction of the child's body should be cautiously avoided."

Partial presentation of the placenta admits, for the most part, of the same mode of treatment as accidental hæmorrhage; nevertheless, it must not be supposed that a natural termination, though so highly desirable, will invariably follow the proceeding I have recommended: the after-conduct of the case, then, must depend on the continuance of the hæmorrhage, and the effect produced on the constitution.

Accidental Hæmorrhage.—It is mostly observed in accidental hæmorrhage, that, after the establishment of labour, the discharge is diminished in quantity, or wholly suspended, while the uterus is contracting; and returns more copiously in the intervals of action.

In accordance with this observation, early rupture of the membranes, for reasons fully detailed, is recommended. We do not know any obstetrical practice which is more generally satisfactory in its results, than early rupture of the membranes in labour with accidental hæmorrhage, together with a firm bandage round the abdomen, tightened (but not to girt) as the uterus decreases in bulk, and with the occasional aid of the ergot of rye.

Out of a considerable number of cases so treated, we have seen somewhere the result was fatal; and, we believe, (as Dr. Lee observes in his detail of some fatal cases among a number of successful ones,*) that, in these, death could not have been prevented by any means we possess.

Dr. R. further says—"Should the discharge continue to flow outwardly with profuseness, or should indications of internal bleeding be present—the symptoms, indeed, being those of loss of blood generally, together with a flabby and relaxed state of the uterine parietes—delivery must be had recourse to without delay, as offering the only reasonable chance of safety."

Hæmorrhages after delivery, with their treatment, and the operation of transfusion, are well discussed. On the management of the placenta we have full and excellent directions. On the treatment of retained placenta from irregular contraction, we are told—"since, then, there is so much more chance of injuring the uterus, it behoves us to be so much the more cautious in our proceedings. If there be no flooding, we may generally wait an hour from the birth of the child; and in the interval, we may administer small doses of laudanum occasionally."

Of the propriety of giving small doses of laudanum, under these circumstances, we are quite at issue with the Doctor; but in his remarks farther on, p. 526, we more fully coincide. "Our obvious indication, if we were foiled, would be to place the patient in some degree under the influence of opium, and take advantage of the earliest opportunity of its action to renew our attempts; for the longer we wait, the more difficulty we shall experience from the permanent contraction which will assuredly take place, and which we have no means, as far as I have been able to judge, of removing."

We may here state a case somewhat in accordance—but the treatment of which we do not recommend to be followed, unless from absolute necessity. We were called to a patient at mid-day who had been delivered naturally at two o'clock in the morning; fruitless efforts had been made for the delivery of the placenta by three several practitioners, and at the moment we entered the room, the patient was making a most distressing outcry from the pain inflicted by the attempts of one whom we knew to be a most adroit practitioner: the uselessness of further exertion, together with the confused state and extreme tenderness of the parts, induced us, after consulting—other minor circumstances being attended to—to give a large and influential dose of laudanum in a saline draught, and to wait patiently. Early the morning following an active aperient was given, and four hours after (the aperient not acting) a domestic enema was administered—strong uterine action returned, when the bowels acted, and a very large placenta was expelled without any further interference. The patient did well.

Convulsions is the most formidable disease puerperal women are liable to. This disease assails women of all ages and constitutions (p. 563.) still, *cæteris paribus*, women of the plethoric or nervous temperament are most obnoxious to their attack, and they by far more frequently accompany first labours than subsequent ones. We agree with our author (p. 564, note) that too minute nosological arrangements are bad, particularly where they do not lead to any practical difference in the treatment; but we do consider that some modification in the treatment is required where puerperal convulsions assail women of the different temperaments before mentioned.

Dr. R. considers puerperal convulsions to be exactly analogous to infantile convulsions, p. 566, (where the nervous system bears a very large proportion to the general bulk of the body), “and that they are both of them allied to apoplexy; the causes, however, acting upon the system under a highly excitable state. This view of the case, whether correct or not, is practically valuable, and will lead to the most judicious treatment.” “But the affection, in my opinion, originates most frequently in some deranged state of the uterus itself, probably in its nervous system, and consists in some irritation propagated from that organ to the brain.”

In the treatment, the active exertion of all our skill and energy is required—copious bleeding and other appropriate treatment, are fully desisted on, p. 575-9.

After active depletory means have been had recourse to, and the convulsions have apparently ceased, we think we have seen the recurrence of the paroxysm arrested by dashing the patient's face with cold water, (by a basin full out of a pail,) at the moment we observed the face portray the approach of convulsion by its becoming distorted. “Few (cases) comparatively, under good care, now terminate unfortunately; and the favourable results are to be attributed to the extent to which bleeding and other evacuant means are carried.”

The bladder is recommended to be *carefully* attended to (p. 587), not only during the convulsive paroxysms, but also while a state of imperfect consciousness remains.

Rupture of the Uterus.—This most formidable accident usually terminates fatally. Among the causes, we think not forcibly enough stated by authors, may be mentioned congenital hydrocephalus of the fœtus, and we are therefore induced to detail two cases from this circumstance, the fatal termination of which might have been prevented. In the first, the patient had borne eleven living children—in her 12th labour she was attended by her usual midwife—her labour went on for two days, and not making any satisfactory progress, a second midwife saw her; as the head presented at the brim of the pelvis and no hæmorrhage appeared, and the parts were lax and dilatable, they, the midwives, considered it a mere tedious case; a neighbouring medical practitioner was subsequently called in, when she was dying; and she was dead before we reached her.

The late Mr. Joshua Brooks, with several medical friends, assisted at the examination. On examination per vaginam, there appeared nothing extraordinary—on laying aside the abdominal parietes, the uterus appeared full, prominent and healthy—on opening the uterus, the fœtus lay in the natural position; with considerable difficulty the fœtus was taken out, the head was so completely and tightly jammed in the brim of the pelvis, the uterus was literally worn through on one side, near the cervix, between the foetal head and brim of the pelvis. Blood had escaped to some extent under the peritoneum into the lumbar region. The patient had an ample well-formed pelvis.

The second patient had also borne several living children. Labour had been going on for thirty-six hours—her usual medical attendant had been with her eight hours—and had gone to lay down on the sofa, she was seized with rigor—we were sent for—the head was perforated—a large quantity of water escaped—there were pains enough to propel the fœtus, and the placenta followed with moderate assistance—shortly after, the patient died. The uterus was lacerated on the side from the cervix to near the fundus—the pelvis was ample. It has occurred to us to have seen several cases of congenital hydrocephalus in labour, in some of which we have reason to believe the fatal termination was prevented by delivering the patient by the operation of craniotomy. Ample and judicious rules are laid down for the detection and treatment of these cases by our author, under the divisions of lingering labour from enlarged head, and craniotomy.

Rupture of the Bladder.—"It appears to me that this accident must always be the effect of neglect or improper interference; it very seldom indeed, or never can occur in the hands of a careful and judicious surgeon."

Since rupture of the bladder is so universally fatal, and since it can usually be prevented if proper attention be paid, it becomes our duty, under lingering labour particularly, to keep a watchful eye over its condition; and, if it become immoderately full, to relieve it by the catheter.

We have afterwards fully treated, collapse, prolapsed navel-string—descent of the hand with the head—monsters and plural births—to this we have added an interesting and valuable appendix. The remarks and directions on foetal animation suspended, we strongly recommend to the

attentive perusal of our obstetrical brethren—as pointing out the best means, and holding out encouragement to them in their endeavours to procure resuscitation.

We do not know why, but we presume for some judicious reason, Dr. R. has omitted mentioning the symptoms of pregnancy, the treatment of maladies now and then attending its progress, and also the subject of abortion; as we consider them forming a part of obstetrical medicine.

There are some subjects, as that on the management of the placenta, which in lectures orally delivered, cannot be too forcibly or strongly impressed, but which, in a written work, appear somewhat redundant, and might, without prejudice to its utility, be curtailed.

In concluding our review, we most earnestly recommend this work to the student, who wishes to acquire knowledge, and to the practitioner who wishes to refresh his memory, as a most faithful picture of practical midwifery; and we can with justice say, that altogether it is one of the best books we have read on the subject of obstetrical medicine and surgery.

I. THREE MEMOIRS ON THE DEVELOPMENT AND STRUCTURE OF THE TEETH AND EPITHELIUM, Read at the Ninth Annual Meeting of the British Association for the Encouragement of Science, held at Birmingham, in August, 1839; with Diagrams exhibited in illustration of them. By *Alexander Nasmyth*, F.L.S., F.G.S.. Member of the Royal College of Surgeons, &c. 8vo. pp. 47. London: J. Churchill, 1841.

II. ODONTOGRAPHY; OR A TREATISE ON THE COMPARATIVE ANATOMY OF THE TEETH; THEIR PHYSIOLOGICAL RELATIONS, MODE OF DEVELOPMENT, AND MICROSCOPIC STRUCTURE IN THE VERTEBRATE ANIMALS. Illustrated by upwards of 150 Plates. By *Richard Owen*, F.R.S. &c. Parts I. and II. H. Bailliere, London, 1840.

THE feelings that have arisen between the gentlemen whose works lie before us, and the controversy that has engaged the attention of the public are calculated to pain every lover of science. Physiologists would seem to be a genus irritabile as well as poets, and the more minute and microscopic the point, the more violent the dispute about it. It is neither our habit nor our taste to enter into personal quarrels, and we shall not, in this instance, infringe our custom. We trust that reflection will convince Mr. Owen and Mr. Nasmyth that they consult their dignity by avoiding personalities, and that both suffer by discussions which only amuse the idle and malicious.

Without indulging in any further observations, or meddling with a controversy, unpleasant at the best, we shall content ourselves with presenting, in the first instance, a pretty complete view of Mr. Nasmyth's researches.

Mr. N. observes at starting, that the application of the microscope to the study of the fossil teeth has opened a new field of inquiry. Mr. N. continues,—“In endeavouring to form a classification of the animal kingdom, having for its basis the peculiar disposition and arrangement of the internal organization of the teeth, I was led to the discovery of a structure, which has hitherto not been noticed. Purkinje and Fränkel state, that ‘the proper dental substance consists of a uniform structureless substance, and of fibres passing through it.’ The writings on the subject by Retzius, Müller, and others, leave us to conclude that the interfibrous substance does not present any traces of peculiar conformation:—but I am disposed to believe that it is not only organized, but so differently and characteristically so in different animals, as to be capable of affording valuable aid to the naturalist in classifying the animal kingdom.” Mr. Nasmyth enjoins those who would pursue these investigations to make use of a magnifying power of one tenth of an inch focal distance, and of the most perfect kind, with an acromatic condenser of the light.

Not only has Mr. Nasmyth satisfied himself of the cellular character of the interfibrous structures of the teeth, but he has also made researches into the structure and composition of the fibres of different teeth, and has generally found that these present an interrupted or baccated appearance, as if they were made up of different compartments,—an obvious concomitant of the cellular structure of the interfibrous material. The size and relative position of these portions or divisions of a fibre differ in various series of animals. In the human subject, for instance, each compartment of the fibre is of an oval shape, and its long small extremity is in apposition to the one next adjoining. The long axis of the oval corresponds with the course of the fibre. In some species of the monkey tribe the fibre appears to be composed of two rows of compartments parallel to each other. In the orang utan the fibre is composed of rhomboidal divisions, and in the baboon they are oval like those of the human subject, and the surfaces of the long axes are in apposition. In fact, each class of animals seems to have a distinct characteristic appearance, but all are similar in respect to the general baccated appearance.

In the tusk of the mammoth, the structure seems laminated, and there are other circumstances, which tend to bear out the opinion that teeth ordinarily are so. Mr. Nasmyth observes:—

“If we suppose that ivory consists only of fibres surrounded by a structureless material, passing from the centre to the circumference, we must conclude that at right angles to their course it would be most difficult of fracture; but the contrary is the fact, as is exemplified by the natural separation of the lamellæ of the tusk of the mammoth in a direction contrary to the course of these fibres, as well as by the mode adopted by ivory cutters of making sections corresponding to the vertical, and not to the transverse diameter of the tooth. Many other facts might be here adduced, as well as phenomena accompanying the decay of these organs, were this necessary or relevant to the business of this section. All systems of dental structure which have hitherto been propounded have failed, I think, to explain facts of daily occurrence, but they may be accounted for, I

venture to assert, by the cellular organization of the interfibrous substance which has been improperly termed structureless, and by the peculiar baccated arrangement of the fibres." 8.

The Enamel.—"According to the views of Retzius, Purkinje, and the recent investigators of the structure of the teeth by the aid of the microscope, the enamel consists of fibres running in a direction from the centre to the circumference of the tooth. Both Retzius and Purkinje have given delineations of the course of these fibres. On making a section of the enamel, in a direction parallel to the transverse diameter of the tooth, the appearance as described by these writers is observed, and they are said to be seen to terminate in an hexagonal form beneath the investing crusta petrosa. If, however, a different section of the enamel of the human tooth be made; for instance, one near the surface, parallel to the vertical direction or long axis of the tooth, an appearance presents itself which has induced me to take a different view of the nature of the structure of the enamel. The appearance to which I now allude is represented at [Plate C. 9.] figure marked Structure of the enamel, No. 1. It will there be found that the section of the enamel presents compartments or divisions, but of a different character from those I have already spoken of as existing in the interfibrous substance of the ivory. Each compartment of the enamel is of a semicircular form, and the convexity of the semicircle or arch looks upwards towards the free external portion of the tooth. The vertical section, [Plate C. 9.] enamel No. 2, gives the appearance of these cells as seen in that direction.

In the sections both of enamel and ivory, there will be always observed near the margins isolated cells, which admit of their form and appearance being carefully studied." 9.

The Pulp.—Mr. Nasmyth observes that the pulp is cellular throughout its entire structure. The surface of it, that portion where its transition into ivory takes place, presents a beautiful reticulated cellular appearance, and this conformation is believed by Mr. N. to be essentially concerned in the development of the ivory.

An analogous reticular appearance is displayed by the internal or productive surface of the capsule.

The membranous investment which covers the enamel of the teeth of man and other simple teeth, displays a similar arrangement.

"Thus," says Mr. N., "there is a remarkable uniformity in the structure of the formative tissues of the tooth, and of the dental substance itself; for not only is the interfibrous material cellular, but the surface of the pulp, which is the organ for the production of the ivory, and the internal or productive surface of the capsule, also uniformly present a reticulated or cellular appearance.

My researches have, I venture to hope, also established a new and beautiful instance of the harmony of the laws of nature in demonstrating the fact of the uniformity of the products of the capsule: for not only is the enamel uniformly provided with an external covering, but there is also a membranous investment of the crusta petrosa itself. I think, also, that we must be compelled to allow the uniform presence of a fourth tooth-bone substance, the existence of which is more constant in all animals, either normally or anormally, than any of the other three hitherto recognized textures." 12.

Such is the substance of the first of the memoirs before us. The second is intended to lay before the public, through the medium of the Association, Mr. Nasmyth's conclusions in reference to the following subjects:—1st, on the covering of the enamel; 2ndly, on the structure of

teeth; 3rdly, on the structure of the pulp and its relation to the development of the ivory.

Mr. Nasmyth first dwells on the fact that the enamel is, in all instances, covered with *crusta petrosa*. He adds:—"On the incisor of the calf and several other simple teeth, I have also distinctly traced in this layer of *crusta petrosa*, superimposed on the enamel, the corpuscles of Purkinje, analogous to those found in bone. I possess preparations of teeth of the human subject, and simple teeth of the herbivora and carnivora, showing this structure in a clear and unequivocal form."

Reverting to the fibres of the ivory, and the "baccated" appearance they present, he observes:—"To indicate the true theory of the formation of ivory, nothing more is required than the display of these appearances. No 'excreted' or 'exuded' substance can possibly present an animal tissue arranged in regular connected cells. It is quite evident that these cells, whilst receiving a supply of earthy matter during the process of transition must remain in connection with, and indeed continue to form part of, the pulp. It would be absurd to suppose that a regularly cellular structure can be 'excreted;' but it would be still more ludicrous to maintain, that after such cells have been excreted, that is to say, after all connexion between them and the pulp has ceased, they still possess the power or means of deriving from the blood the materials requisite for their transition into ivory, and of carrying on that process in their isolated state."

"The general appearance of the fibres thus treated is exactly similar to that of the fibres of cellular tissue generally, and the diameter of each corresponds exactly to the diameter of the calibre of the tube, which, according to Retzius, is pervious, although at the same time he says that it is always more or less filled with earthy matter. In fact, the tubes have been said to be principally visible by means of their contents, the reason of which appears to me obviously to be, that these contents are the only part of them which actually exist.

In order to separate the animal matter from the osseous substance of the tooth, I submitted thin slices of many different kinds of dental bone to the action of a solution of caustic potash, for a period sufficient to dissolve and remove the organic tissue; but the brittle nature of the residue, the difficulty of washing it without breaking down its structure, and the great opacity of the sections which had been thus treated, deprived this experiment of any striking results illustrative of the internal organization of teeth; but the appearances presented in its progress were all such as to favour the conclusion that the structure of the ivory is essentially cellular.

Having convinced myself of the existence of the peculiar cellular structure of the tooth, I entered with great interest on an examination of the organ by which it is produced, viz. the pulp.

On examining the internal structure of the pulp generally, the number of minute cells presenting themselves in a vesicular form is very remarkable; they seem to constitute indeed the principal portion of its bulk. These vesicles vary in size from the smallest perceptible microscopic appearance, probably the ten-thousandth part of an inch in diameter, to one-eighth of an inch, and are evidently disposed in different layers throughout the body of the pulp. They are of various shapes." 19.

When thin layers of macerated pulp are examined, they present an irregular reticular appearance, and are found to be interspersed with granules. The parenchyma is traversed by vessels of which the direction is generally vertical.

Mr. Nasmyth conjectures that the cells of the pulp are filled either with air or fluid, he cannot distinguish which. He examines the question if the ivory be simply a product of the pulp, or a transformation of its substance. He says,—although it is distinctly demonstrated that the inter-fibrous substance of the ivory is formed by the deposition of osseous matter in the cells of the reticular surface of the pulp, I cannot boast of being able fully to unveil that interesting process. The cells for the reception of the earthy matter are displayed, but—how is this matter arranged in those cells? How is it, in the first place, derived from the blood and introduced into them? What are the causes of the characteristic varieties of the inter-fibrous cellular substance in different classes of animals? What is the precise degree of importance of the reticular cellular organization observed on the surface of the pulp with regard to the process of transition, besides the fact that it presents cells into which the earth is deposited? Do these reticular cells form a system containing circulating fluids, from which the osseous material of the tooth is eliminated? How are these cells connected together, both in their transition state and in the pulp, as well as when they have passed into the state of ivory? These, and many other similar questions, remain to be solved before our comprehension of the process of the formation of ivory can be said to be complete.

He proceeds to develop his own ideas on the formation of the ivory. On the surface of the pulp are found innumerable detached cells, with central points. Generally, these cells form a regular and complete coating, studded with points, which are placed at intervals, corresponding in extent to those between the fibres.

These points are rendered visible from the greater opacity of the intermediate material, and will be seen to reflect or absorb the light, according to the difference in the focal distance. A comparison between the superincumbent perfect ivory, and the formative surface of the pulp beneath, is always easy, because portions of the former, at an early stage at any rate, remain adherent to the latter, and fragments of the dental bone are found strewn over it, more especially in human teeth. The cellular conformation of these fragments is always evident, and in size and appearance they are perfectly accordant with the cells of the pulp. At an early stage of dental development, the reticulated or cellular appearance of the pulp is particularly beautiful. When merely a thin layer of ossific matter has been deposited on its surface, it may with great facility be drawn out entire, together with the former, laid on a glass, compressed a little, and then examined with the high powers of the microscope. The different layers of cells will be seen, and the transition into ivory may be observed.

“It appears to me,” observes our author, “that the framework of the reticulation, or cells of the pulp, constitutes the fibres of the tooth, which, while in this state, are spirally coiled, and fit into one another. At all events, the diameter of these fibres of the reticulations is precisely that of the fibres of the ivory; the points or projections rising from the framework correspond to the centres of the cells, and may be traced to belong to their structure. The fibres composed of granules of animal matter, and which I describe as the framework of the reticulations, become, upon the deposition of ossific matter within the cellules of those reticulations, the fibres of the ivory. The only change which they appear to undergo during the process of transition, is, that they are then drawn out from the coiled-up state in which they exist between the collapsed cells of the reticula-

tions into the more longitudinal but still spiral form in which they are found in the ivory." 29.

He is inclined to believe that this convoluted fibre is made up of single successive granules, which are developed one after the other from the body of the pulp, until the fibre is complete. The manner in which the osseous matter is deposited in the cells of the interfibrous substance, Mr. N. has not been able to discover. It would appear, however, that these cells are subdivided into minute cellules, for they present the appearance of being filled with granules in certain progressive stages of development. In whatever aspect we view the formative organs of the tooth, and the dental tissues themselves, and whether we examine the latter during the process of their development, or after their formation has been completed, we are everywhere met by appearances which denote a cellular or reticular arrangement.

Mr. Nasmyth adds :—

"I think that the view I have taken of the subject more satisfactorily explains than any other, facts of daily experience. The laminated arrangement of the osseous cells explains the concentric fracture of the tusks of the mammoth, and of other teeth, when left to decompose spontaneously. The cells being in imbricated apposition, and held together by earthy salts, being moreover arranged in layers conformably with the periphery of the pulp, must be regarded as concentrically laminated. The existence of this structure explains the phenomena daily noticed by ivory-cutters, and also Mr. Hunter's experiments of feeding animals with madder, the result of which is incompatible with any other theory of the structure of dental bone.

No view hitherto taken of the structure of dental bone has afforded a satisfactory explanation of the ordinary morbid appearances of the tooth, but many of these I think may be explained, if we regard the latter as cellular. Still I do not conceive that I have in any way exhausted the subject; far from it; I am quite alive to the imperfect nature of my researches, and am prepared for correction on many points, when more extended and varied investigations shall have been undertaken.

I find that Schwann, in a recent work, teaches that all the primary tissues of the animal frame are cellular, and has given to the world some remarkably interesting details on this subject. He says that he has remarked the characteristic 'cellular nuclei,' or elementary cells, on the enamel-membrane, that they are continued in minute fibres, and that these are similar to the epithelium cylinders in mucous membranes. He notices what he calls cylindrical cells on the surface of the pulp, and he supposes that these cylindrical cells of the pulp are the fibres of the tooth in their first stage, which does not at all coincide with my observations. He regards the dental substance simply as the ossified pulp, whilst my observations lead me to conclude that the cells of the ivory are altogether a distinct formation. He acknowledges, however, that he is ignorant of the process of transition, and he regards the dental pulp as a simple cartilage. In fact, he starts with a ready-made hypothesis, and founds his opinion rather on the observations of others, and on the inferences he draws from them, than on his own actual researches: with respect to what he himself gives as his own, it accords for the most part with the details I have just communicated." 33.

An account of Schwann's researches follows, but we need not insert it.

The *Third Memoir* contains a notice of Mr. Nasmyth's researches into the Structure of Epithelium. After alluding to the opinion first

broached by Leeuwenhoek, that epithelium consists of scales, which are found on the surface of all mucous and serous membranes, as on the inner membrane of the vascular system, Mr. N. proceeds to describe the—

Structure of Epithelium generally.

The epithelium is a layer of substance destitute of vessels, which covers the vascular surface of mucous membranes. If the surface of a mucous membrane (for instance, the conjunctiva or the buccal) of a living animal be slightly rubbed, it will be found, on microscopic examination, that numerous small particles have been detached from it. At the first glance they present precisely the appearance of scales, for they are flat bodies with a thick portion or nucleus in their centre, and with very thin and transparent margins.

They are found not unfrequently with a curved margin and without a central spot or nucleus, and their surface often presents numerous transparent points, with very fine lines. The nucleus of the scale generally contains a small body which has been termed the nucleus-corpuscle. But by this simple method of observation we do not obtain an insight into their true structure. If we remove the secretion from the surface of an irritated mucous membrane, we shall find another class of bodies which differ from these first mentioned, in being smaller and more globular. They have a nucleus of the same size as those of the so-called scales, and also a nucleus-corpuscle, but the surrounding structure is in the form of a cell, and is much smaller. Here and there may also be observed a nucleus with its accompanying corpuscle, lying in substance which presents no appearance of a cell. The structures here described may also be seen on a careful examination of a section of the epithelium and mucous membrane of a young subject. On the surface of, and in immediate apposition to, the mucous membrane are seen numerous nuclei, which more externally are surrounded by a cell; and on approaching still nearer to the surface, we find this cell, from having increased considerably in size, and become compressed, assuming the appearance of a scale, which retains the nucleus, and its corpuscle of primitive size. The various stages of the development of the epithelium may be satisfactorily traced, by removing, after a short maceration, the layer of epithelium from the under surface of the tongue of a young calf, and placing it upon a piece of glass, when, if the external surface of the object be brought into focal distance, large scales only with their central nuclei are observable; but if the object be approximated to the glass, so as to bring the internal part of it into the proper focal distance, numerous small scales are brought into view; and if the object be still more approximated to the lens, so as to bring its internal surface into the proper focal distance, numerous rounded cells become apparent.

In the fœtus, the defined and well-formed scales of the epidermis, are not unfrequently distinctly seen externally; the *rete Malpighii* consists of newly-formed cells, and between the two may be observed other cells in a state of progressive development. On the surface of the vascular mucous membrane minute cells are found with a nucleus in their interior, round which the cells grow; and this, in short, is the process of development of the minute bodies which constitute the epithelium.

The component parts of the epithelium are connected, according to Mr. Nasmyth, in this manner. The cells on the surface of the mucous membrane are separated from each other by considerable spaces, which are occupied by a gelatinous substance, interspersed with minute granular bodies. But the scales forming superficial layers of the epithelium are separated by very minute linear spaces, but are still connected together by a translucent, gelatinous substance.

This latter displays considerable elasticity, as is easily rendered evident by an attempt to lacerate the epithelium in a moist state, if the latter be examined at the same time by the aid of a magnifying power. Each time that the laceration is attempted, the membrane yields, and the scales separate to a certain extent; but regain their original position, on the cessation of the effort to draw them apart. In some instances a fibrous structure is evident in the gelatinous substance between the scales.

The scales towards the free surface are distinctly observed to overlap. The gelatinous substance above alluded to, presents distinct granular bodies, which give to the epithelium, *en masse*, a rather dense aspect, the individual scales being sometimes covered by these granules; the latter can, however, be separated from the scales by compression; by which means, indeed, the granules themselves may be made entirely to disappear. In certain parts of the epithelium of the calf, distinct fibres are observed, which pass over the surface of the scales, and connect them together, thus forming a very delicate net-work. This appearance is most evident upon compression of the thick epithelium on the anterior part of the alveolar arch of the upper jaw.

In these cases, where the small scales, or small clusters of scales, are being continually thrown off, as on the surface of the body, and of the mucous membranes of man and animals generally, the scales composing the external layer will be found to overlap each other, and thus the gradual pressure of scales below, which are increasing in size, is the cause of the throwing off of these cuticular lamellæ. After these have been detached, their place is occupied by newly-formed scales.

Mr. Nasmyth remarks on another form in which the external layer of cuticle is removed, viz. in a continuous layer, as by frogs and efts. As soon as this layer is removed, another lamina of scales is seen on the surface of the animal's skin. If after the death of a frog it be immersed in water, this thin external translucent layer generally separates; but upon prolonging the maceration, another lamina is found to be gradually separating from the cutis, which is dense, and sometimes measures a quarter of a line in thickness. Internally it will be found to be composed of very numerous cells, while externally the regular series of scales is evident. The tessellated lamina alluded to above evidently takes its origin from this layer of cuticle. Mr. Nasmyth thinks that no other conclusion can be arrived at than that cuticle and epithelium are organised tissues. It would appear that they are formed from a fluid secretion on the surface of the vascular corion. The various stages of development being, 1, the formation of nuclei and corpuscles; 2, that of cells; 3, the growth of the latter effected by vital imbibition; 4, their compression and gradual conversion into minute lamellæ or scales. In short, it appears a rational conclusion that the component parts of the cuticle and epithelium have within

themselves a power of growth; and it remains for pathologists to determine what share the derangement of this function has in the production of cutaneous diseases. Another argument in favour of the organic nature of the epithelium is derived from the circumstance, that under certain modifications it presents various vital phenomena, among which may be mentioned the ciliary motions.

Mr. Nasmyth has made the structure and development of that portion of the epithelium which lines the cavity of the mouth a subject of particular examination. In the foetal subject, previous to the extrusion of the teeth, it forms on the alveolar arch a dense projecting layer, distinguishable from the surrounding membrane by its whiteness, and by the existence on its surface of ridges and sulci, having a waving course and a variable direction. The alveolar epithelium is thicker in proportion to the youth of the subject examined. It is most prominent where it corresponds with the molar teeth: its internal surface is concave, receiving the projecting mucous membrane. This portion presents various objects for investigation.

Firstly, as regards its composition:—It is made up of a mass of scales, lying one on the surface of the other. This disposition shows that the terms “dental cartilage,” or the “cartilage of the gum,” which have hitherto been applied to this structure, give an erroneous idea of its true nature, for cartilage always presents the corpuscle discovered and described by Purkinje. As in other portions of the epithelium, the external scales here are the larger, and this holds good generally, until we come to the surface of the vascular mucous membrane, which presents simple cells with their corpuscles.

In the interior of this alveolar epithelium, where it corresponds to the molar teeth, small vesicles may be frequently observed, varying in size from one quarter to one-eighth of a line in diameter. They appear to the naked eye to be transparent; under the microscope their parietes are found to consist of attenuated scales, and their cavity to contain a fluid abounding in minute granules and cells.* The internal surface of the epithelium covering the alveolar arch frequently presents concavities or indentations which are from a line and a half to three or four lines in circumference: they correspond to projections from the mucous membrane formed by a larger species of vesicle. The latter is deeply implanted in the vascular mucous membrane. The parietes of these vesicles are composed of a very delicate membrane; they contain a transparent fluid which coagulates on the application of heat, or acid, or on immersion in spirit, and in this fluid float numerous globules and scales similar to those of the epithelium generally. The internal or attached surface of the alveolar epithelium also presents numerous fringed processes measuring from one line to one and a half lines in length, and half a line in breadth, which sink into the substance of the subjacent mucous membrane. Under the microscope

* The vesicles here alluded to are most probably those which Serres describes as glands for the secretion of tartar: they are very numerous even after the extrusion of the incisor teeth of the calf, and are seen with great facility internally.

these fringes are found to be composed of elongated scales connected together, forming masses which divide and subdivide until they attain such an extreme tenuity that the most minute terminations consist but of two scales in marginal apposition. If the epithelium be carefully separated from the surface of the mucous membrane corresponding to the unextruded molar teeth, and placed in water or in diluted spirit of wine for some little time, its internal or attached surface presents these fringes much enlarged and forming a mass more considerable in size than the dense epithelium itself.

The epithelium covering the mucous membrane of the palate presents transverse rugæ, corresponding to those of the mucous membrane. If these palatal rugæ of the epithelium of the calf be carefully examined from the internal surface with a magnifying power of one inch focal distance, each will be found to consist, or to be composed of, numerous depressions or cul de sacs which receive prolongations or pointed processes of the subjacent mucous membrane.

They are of extreme tenuity, and, when viewed by the aid of high magnifying powers, are observed to consist of distinct scales.

Mr. Nasmyth is of opinion that mucus and epithelium are not, as has been supposed, identical.

Such is the substance of the three memoirs before us. Our readers are put in possession of the principal facts contained in them. They evince the laboriousness of Mr. Nasmyth's observations.

We can but glance at Mr. Owen's work, its partial publication and present incompleteness, precluding our giving any account of it.

We may state that, independently of an unfinished introduction, it comprises a history of the dental system of fishes, which is brought to a termination, and one of that of reptiles, which is merely commenced.

Of the execution of his task, we fancy that it is needless to speak. Mr. Owen's position, his opportunities, his labours, his zeal, and his acquirements, all offer a substantial and sufficient guarantee for first-rate performance. And a first-rate performance it is. When more is before the public we shall return to it, and notice it at ample length.

But we cannot quit the subject without recommending our readers to make themselves possessors of the work. The scientific and the curious will be fully repaid, and the library of every one of philosophical taste, and that of every public body, should possess it.

TRAITÉ DES MALADIES DES REINS, &c. Par P. Rayer. Tomes 1, 2, 3. Paris : Bailliere.

TREATISE ON THE DISEASES OF THE KIDNEYS, AND ON THE ALTERATIONS OF THE URINARY SECRETION, &c. &c. With an Atlas of Illustrative Drawings, in Folio. By P. Rayer, Physician of La Charité Hospital, Consulting Physician to the King, and Member of the Royal Academy, &c.

IN the Numbers of this Review for April and July 1839, we submitted to our readers' attention some of the more interesting contents of the first volume of this important work, in connection with another instructive book, then recently published on the same subject, by Dr. Willis—his Treatise on the Diseases of the Urinary Organs. Since that period M. Rayer has brought out a second volume last year, and a third during the course of the present one.

The work, although it would seem to be not yet completed, is altogether so admirable a production that we are anxious that its value should be known to the English student without delay; and, for this purpose, we intend to devote a tolerably long article to its review at the present time, and may probably recur to our theme on some future occasion.

The *first* volume gives an ample account of the healthy and morbid anatomy of the kidneys; it then treats at great length of the urine, its composition, the best mode of examining it, the various changes it undergoes in health and sickness, the different kinds of sediment which it is apt to deposit, and the connection between the morbid alterations of this secretion and those of the blood and other fluids of the body: nearly 200 pages are devoted to the consideration of these topics. The rest of the volume is occupied with a description, first of wounds of the kidney, and secondly of common inflammation of the organ, or simple *nephritis*; the author illustrating at great length the relations which may be traced between this disease and the morbid states of other organs, as of the ureters, of the bladder, urethra and prostate gland, of the encephalon and of the spinal marrow, of the digestive apparatus, of the organs of circulation and respiration, of the skin, and of the lymphatic or absorbent system; and closing with a chapter on the connection of simple nephritis with febrile disorders.

The *second* volume commences with a description of those forms of nephritis that are induced by the absorption of morbid poisons and of purulent matter into the system, by certain of the exanthemata, by gout, and by rheumatism; but five-sixths of its pages are occupied with a most minute and elaborate account of that peculiar form of renal disease, to which the appellations of albuminuria, albuminous nephritis, granular degeneration of the kidneys, morbus Brightii, &c. have been given, and which of late years has excited so much attention in the medical world.

The *third* volume treats of *pyelitis*, or inflammation of the pelvis and calices of the kidney, and the relations between this not unfrequent disease and various other disorders, more especially those of the bladder and urethra, and those of the nervous system; then successively of *perine-*

phritis, or inflammation of the investing membranes of the kidney, of the different kinds of renal fistulæ, of renal hæmorrhages and apoplexy, of hypertrophy and atrophy of the kidneys, of *hydronephrosis* or dropsy of the kidney from obstruction to the escape of urine along the ureters, of the development of numerous morbid growths and alterations, such as cysts, cancer, melanosis, entozoa, &c.; and lastly, of various anomalies, congenital or acquired, as to the number, the relative position, the displacement, and so forth, of the kidneys.

By this summary of its contents, the reader will be able to judge for himself of the wide and extensive field of pathological research which a knowledge of the present work holds out to him; and, although here and there it may be capable of compression with advantage, we can confidently assure the studious physician that it will amply, aye more than amply, repay the labour of a most diligent perusal. In our opinion, it is perhaps the very ablest work on practical pathology, which has issued from the French press since the publication of *Laennec's* immortal work, with the exception of some of *M. Andral's* admirable writings. *M. Rayer* had already acquired an European reputation by his elaborate treatise on cutaneous diseases; the present one will greatly extend and advance it; and we most fervently trust that he will be long spared to gain fresh laurels in the peaceful pursuit of professional fame.

As it is utterly impossible to embrace within the limits of one article even a passing notice of the numerous subjects, each elaborately discussed, in the three volumes now before us, we purpose to select that one, perhaps the most interesting of all, which involves a consideration of that curious disease of the kidneys, in which the urine is invariably found to contain albumen, as well as to undergo other remarkable changes in its chemical and physical properties. This peculiar affection was first accurately described and discriminated by our own distinguished countryman, *Dr. Bright*, under the appellations of *diseased kidney in dropsy, and renal disease accompanied with secretion of albuminous urine*; *M. Rayer* prefers the term *albuminous nephritis*;* and under this term we shall now proceed to give a condensed view of his elaborate description.

* Our author, alluding to the objections that have been made to the term *nephritis* being applied to a disease, which has not been proved to be essentially and invariably inflammatory in its nature, and which does not require, in numerous cases, an antiphlogistic treatment, states that in his opinion there is always more or less phlogistic action present during the early and acute stage of the malady, and that the physician is not more likely to be misled as to the remedies to be employed by using the term *nephritis*, than the surgeon is by that of *cystitis* in the treatment of various chronic diseases of the bladder. Then, as to the objection that the urine is *sometimes* albuminous in simple *nephritis* and other disorders of the kidneys (a fact which he has long admitted to be quite true), *M. Rayer* thinks that the very circumstance of this morbid phenomenon being only occasional in these cases, whereas it is constant in the disease now under consideration, is in itself an argument in favour of characterising it (the latter) by the appellation of *albuminous*. He very justly remarks that physicians have too long overlooked the acute form of the disease, which so often occurs after attacks of scarlatina, and not unfrequently from mere exposure to cold, as well as from

ALBUMINOUS NEPHRITIS

Is chiefly characterised, during life, by the presence of a notable quantity of albumen, with or without sanguineous globules in the urine, by a diminution at the same time in the normal proportion of its salts and of the urea, by a diminished specific gravity of the fluid, and lastly by the co-existence or subsequent development of anasarca and various kinds of internal dropsy. The disease may be either acute or chronic, febrile or apyretic.

M. Rayer describes *six forms*—two of the acute and four of the chronic disease—characterised, the one from the other, by different pathological features; but it is to be remembered that the various morbid alterations may be found united in one case, when the disease has attacked, successively and at longer or shorter intervals, different portions of the two kidneys. He has never met with a case in which one kidney alone has suffered, although the two are often unequally affected.

Anatomical characters of the first form.—The size and weight of the kidneys are considerably increased—from 4 ounces, their ordinary weight, to 8 or even 12 ounces—their consistence is greater, but is not indurated, their surface presents a morbid red hue, and appears spotted over with a number of small red points, of a deeper colour than the rest of the organ. On making an incision into the kidney, we find that its increase of bulk is owing to a tumefaction of its cortical substance, which exhibits numerous red spots similar to those visible on the surface, and which, according to Rayer's researches, correspond with the glands of Malpighi, highly injected with blood. The tubular substance of the kidney, compressed between the tumefied prolongations of the cortical substance, is of a duller red, and its striæ are less apparent, than in the healthy condition. The mucous membrane of its pelvis and calices is sometimes injected, and exhibits vascular arborisations on its surface.

We rarely have an opportunity of observing this first stage of the disease, as it seldom proves fatal until a later period. We must be careful to distinguish it from mere hyperæmia of the kidney,—a not unfrequent concomitant of complaints of the heart—and also from simple nephritis: in this last disease the kidney is always harder and redder, and almost always exhibits some purulent points disseminated through its substance.

Second form.—The volume and size of the kidneys are still increased; their consistence is not quite so great, as in the first form. The lobules

the abuse of spirituous liquors, and which is so generally accompanied with what has been long called *inflammatory* or *plethoric dropsy*.

After stating his own objections to the appellations of *granular degeneration of the kidneys* proposed by Dr. Christison, and of *albuminuria* by M. Martin Solon and Dr. Willis, M. Rayer says, "I should have been much disposed to adopt the denomination of *maladie de Bright*, as consecrating the discovery of this celebrated physician, if it had not seemed to me preferable to give the disease a significative pathological name."

are often more distinct than in health. But the special character of this form is the very remarkable commixture of anæmia and hyperæmia, which gives rise to a marbled appearance of the surface of the organs, produced by red patches disseminated on a yellowish white ground. On cutting the kidney, its cortical substance is observed to be still swollen, but it is now of a pale yellowish hue spotted with red, and there is a well marked line of demarcation between it and the tubular substance, the colour of which is of a reddish brown *assez vif*.

Third form.—The affected kidney is still larger and heavier than in health, but it does not present any red patches or marbled appearance: its cortical substance, both on the surface and when cut into, exhibits a tolerably uniform pale or whitish-red colour, verging to yellow; in some cases the hue is more pale still, and very nearly resembles that of the flesh of the eel. Here and there, we observe minute vessels injected with blood, and more rarely small brownish patches, or large white granulations, produced by an old deposition of plastic lymph. The papillæ of the tubular substance of the kidney often exhibit red indurations; and the mucous membrane of its pelvis and calices is occasionally thickened, and here and there injected. It is to be remembered, however, that the lesions now described cannot be considered as characteristic, seeing that they are to be also noticed in some cases of simple, not albuminous, nephritis.

Fourth form.—This has been designated by Dr. *Bright* the *granulated texture of the kidneys*. The increased volume of the organ continues; its surface, usually of a yellowish colour, is dotted, and sometimes covered with minute spots of a milky white with a yellowish hue, which are often elongated, and give very much the appearance as if small portions of milk curd had been dropped irregularly on the surface of the kidney. These granulations are usually most numerous and distinct at the two ends of the organ; they are not prominent, for the surface of the kidney is quite smooth to the touch: they are imbedded in its cortical substance. If we cut the kidney from its convex to its concave side, its cortical substance exhibits, as in the second and third forms of the disease, a pale yellow colour which contrasts strongly with the red hue of the tubular portion; it (the former) is swollen and occupies a considerably larger space than in health, especially in its prolongations between the cones of the latter. The milky white spots, or granulations of Dr. *Bright*, instead of appearing rounded and distinct from each other, as they usually do, on the outer surface of the organ, now look like irregular flocculent lines, which seem to be continuous with the divergent striæ of the tubular cones. When the incision has been well made in the direction of these striæ, this arrangement is very distinctly seen, especially at the periphery of the kidney and the base of the cones, where the granular degeneration is usually most conspicuous.

In some cases the granulations, although very distinct on the surface of the kidney, can scarcely be observed in the substance of the cortical structure; while in other cases they are scattered through every portion of it, even to the small prolongations which penetrate into the bases of the tubular cones.

The granulations become distinct, if the kidney has been macerated for some time in water; their dull white colour stands out then more obviously from the surrounding cortical substance. M. Rayer alludes to two cases of albuminous dropsy in children, where they were unusually large and of a rounded shape.

Fifth form.—The kidney is larger, heavier, and has its lobules more distinctly marked than in health. I cannot, says our author, give a better idea of the peculiar aspect which it exhibits than by saying that it seems as if a great number of the minute grains of semolina? (*semoule*) were sprinkled on its surface under the investing cellular membrane.

These minute grains, very distinct from the yellow particles sometimes observed in the cortical substance, are the small granulations of plastic lymph which we meet with accidentally in this and in other forms of nephritis.

Sixth form.—This corresponds with the third variety described by Dr. Bright. The diseased organ is sometimes larger, but often smaller, than in health; it is hard and more or less irregular or tuberculated. We observe few, or perhaps none at all, of the milky spots or granulations on the surface of the affected kidney; but a certain number is always found, when an incision is made into the cortical substance. The surface of the kidney is indurated, corrugated, and mamillated; but, although sprinkled over, perhaps, with minute asperities, it does not exhibit the genuine granulations of Bright. In some cases, it must be confessed that the anatomical characters of this form of the disease are so closely alike to those observed after simple chronic nephritis, that it would be scarcely possible to point out the distinction between them, if we did not take into account the phenomena present during the life of the patient. In this advanced stage of the disease, the investing membranes of the kidneys are almost always thickened, at least in several points, and strongly adherent.

Symptoms of Albuminous Nephritis.

The Acute form.—This is of not unfrequent occurrence in children after an attack of scarlatina, especially during certain epidemics; it is also occasionally observed in adults after exposure to sudden changes of temperature, from heat to cold and damp weather. It often commences with shivering, followed by the usual symptoms of pyrexia; the urine is observed to be scanty, and is of a deep brown or reddish colour, not unlike to the washings of fresh meat. It is always acid; its specific gravity is often above, and seldom below, that of healthy urine, the proportion of the urea and of the salts being generally not much, if at all, affected. When allowed to rest, it deposits filamentous flocculi, which seem to be formed by the fibrinous part of the blood; for a certain quantity of this fluid is usually blended with the urine.

The odour of the urine is feebly urinous; at the end of twenty-four hours, it often exhales a peculiar smell, not unlike to that of beef-soup. If we examine with the microscope this albuminous and sanguinolent urine, when first voided, we observe that it holds in suspension a great number of blood-globules, occasionally also globules of mucus, and always

some minute lamellæ of epithelium. Left to rest for some time, this urine exhibits a sediment composed almost entirely of these globules and lamellæ, and sometimes also of fibrinous filaments: a deposit of uric acid is rare; it is more frequent in the chronic form of the disease. We have already said that the specific gravity of the urine in the acute form of albuminous nephritis is usually not much affected; if pleuritis, pneumonia or other inflammatory disease be present at the same time, the tendency will be to an increase, rather than to a diminution, of the specific gravity. Occasionally, but certainly not in most cases, as alleged by Dr. *Christison*, there is a certain degree of distress, and even of pain in voiding the urine; this is generally owing to a sympathetic irritation of the bladder, but, in a few rare instances, to the difficult passage of fibrinous concretions along the urethra. There is almost always a dull aching and sense of uneasy constriction or weight in the loins; these symptoms are sometimes greater on one side than on the other; but they are never so severe as in simple nephritis. In no case of albuminous nephritis has M. *Rayer* ever observed any retraction of the testicles, or heard the patient complain of pains darting in the direction of the ureters.* On the whole, therefore, the local symptoms of the disease must be considered as inconstant and unsatisfactory.

Scarcely has the alteration in the urine fairly developed itself, before symptoms of dropsical effusion make their appearance in some cases with extraordinary rapidity; in short, this is one of the most constant and most characteristic signs of the disease. It usually is first noticed as a puffiness of the eyelids or of the whole face; at other times it primarily affects the limbs, and extends upwards to other parts of the body; occasionally it is erratic, ceasing in one part and making its appearance in another part. The skin is usually hot, and does not pit readily except on strong pressure.

There is always more or less pyrexia of the whole system present; the tongue is furred, the stomach sometimes rejects every thing, and occasionally also the patient is troubled with a cough.

If blood be drawn at this time it is very generally found to be buffy, and sometimes remarkably so; the serum is occasionally milky; but this appearance is much more frequent in the chronic than in the acute form of the disease.

At the commencement of the disease the serum coagulated by heat or by the addition of an acid has its natural consistence; a few days afterwards, the coagulum obtained in this way is found to be less firm than before. The specific gravity of the serum is generally observed to be inversely as the urine is charged with albumen; the greater the quantity of this element in the urine, the lower is the specific gravity of the serum of the blood. M. *Rayer* has several times noticed that, a few days after blood has been drawn, the specific gravity of the serum has increased, when the urine had become less albuminous in consequence of the reme-

* Dr. *Christison*, however, states that he has observed this symptom—pain extending down the inside of the thighs and to the genital organs—in several cases of albuminous nephritis.

dies employed. He has not succeeded in detecting urea in the blood at this early stage of the disease; but he admits that it may be so, and appeals to the observations of *Christison*.

The cure of acute albuminous nephritis is sometimes very rapidly effected, especially when the disease comes on after scarlatina, or during the latter months of pregnancy. It is usually announced by a profuse perspiration, by a copious discharge of urine, by a sensible and progressive diminution in the quantity of albumen, and an increase in that of the urea and the salts contained in it, by the cessation of the feverishness, and the subsidence of the œdema of the face and other parts. If any dropsical effusion has taken place into the cavity of the thorax or of the abdomen, the cure will necessarily be protracted, even under the most favourable circumstances.

In a few cases, acute albuminous nephritis and the general dropsy, which is one of its principal phenomena, terminate fatally; death is usually announced by the rapid development of cerebral symptoms, or of some thoracic inflammation.

In other cases, the disease assumes a chronic character: the feverishness and the anasarca may quite disappear, and the patient seem to have recovered his health; but the urine still retains its albuminous composition. As long as such is the case, the physician cannot consider the cure as complete.

Chronic Albuminous Nephritis.—This is incomparably more frequent than the acute form of the disease: often it is the sequence or result of the latter; but, in the majority of instances, it has the passive character from its commencement.

In persons of a scrofulous constitution, or whose health has been damaged by former illness, I have observed, says *M. Rayer*, the urine—which a short time before exhibited no abnormal phenomena—assume all the characters observed in cases of chronic albuminous nephritis with general dropsy. This change sometimes comes on without any appreciable cause; at other times it seems to be attributable to the influence of cold and damp.

The urine, when first voided, is almost always slightly acid; but in a few cases it is neutral or even alkaline. It is always pale, and not unfrequently somewhat opaque, or like whey in which small whitish floculi are suspended. The odour of the urine is faint, and very different from that of the secretion in health; its specific gravity is usually below the normal standard, and in some cases very considerably so. Examined with the microscope, this urine almost always exhibits numerous small thin lamellæ of a whitish colour, with which are often blended a mucous matter that is either amorphous or in the form of globules.

The want of transparency of the urine is sometimes owing to the presence of a fatty matter held in suspension; this may be removed by means of sulphuric æther; and then the urine becomes quite clear.

If we examine a phial filled with albuminous urine, we usually notice on its surface, and against the sides of the glass, a number of bubbles; and if we blow air with a tube into it, we immediately observe a multitude of large bubbles, like those formed in the same way in soapy water. The

action of heat and of nitric acid at once produces the formation of an albuminous coagulum; this, in some cases, is so abundant as almost to solidify the whole mass. The yellow cyanuret of potassium and iron also coagulates albuminous urine, if it has been previously acidulated with acetic acid.

When this state of the urinary secretion exists, we very generally find that there is a certain degree of increased irritability of the bladder; for the patient has more frequent calls to pass water than in health, even when the actual quantity voided in twenty-four hours is below the normal standard; there is however seldom any pain felt in the loins, except perhaps when very firm pressure is made.

The alterations of the urinary secretion now described may continue for several months, before any symptoms of dropsical effusion into the cellular tissue or elsewhere make their appearance, and without being accompanied with any signs of constitutional disturbance, except debility of the muscular system and impairment perhaps of the appetite. But if the patients are not carried off by some casual illness, or by one of the secondary affections which so frequently supervene during the course of albuminous nephritis, we may with certainty predict that they will become sooner or later dropsical. The most frequent form of dropsy is unquestionably anasarca. In the morning the eyelids and face are observed to be puffy; and towards evening, if the patient has been standing much during the day, the feet and ankles also are generally swollen. The œdema of the lower extremities, connected with disease of the kidneys, does not, it would seem, so readily subside by rest in the horizontal position as when the dropsical effusion is dependent on some organic affection of the heart: this diagnostic difference should therefore be attended to.

M. *Rayer* says that, in several cases, he has observed that the nephritic anasarca was very sensibly and rapidly aggravated by exposure to cold air—more so than is ordinarily the case in other forms of the disease. Ascites is another form of dropsy that is not uncommon, more especially in those cases where there is co-existent disease of the heart or liver; hydrothorax and hydro-pericardium also are not unfrequent in the latter stages of the malady.

It deserves to be noticed that chemical analysis has occasionally detected in the serosity of these effusions a certain quantity of urea, independently of the albumen and saline matters usually discoverable in them.*

When albuminous nephritis has existed for a length of time, the blood is found to undergo remarkable changes. The proportion of the coagulum becomes much diminished, and that of the watery portion correspondently increased. On examining the serum by itself, we find that it contains less albumen and saline matter than in health, and that its specific

* *Nysten*, so far back as 1810, alludes to the presence of urea in the water of ascites. In 1833, M. *Guibourt* detected it in the case of one of M. *Rayer's* patients; and in 1834, Dr. *Barlow* detected it in the serum found in the ventricles of the brain in a patient whose urine was coagulable, and in whom the kidneys exhibited on dissection the granular degeneration, although no form of outward dropsy had occurred during life.

gravity is lower.* The researches of *Bostock*, *Christison* and *Gregory*, are very valuable on this subject. Occasionally it has a milky appearance, and looks very like whey.

If we examine with the microscope the blood of hydropic patients, who have been long affected with albuminous nephritis, the *red globules* are observed to be less numerous than in health; and mixed with these we find other globules of a white colour and of a larger size than the former. There can be no doubt that a certain portion of *urea* may be occasionally found in the blood; it is small indeed and very variable in quantity; but that it does sometimes exist cannot be disputed. The less the proportion that is contained in the urine, the larger will be the quantity discoverable in the blood. Whoever desires the most exact information on this and other points connected with the chemistry of the disease, must apply to Dr. *Christison's* work.

As to the proportion of the *fibrine*, the experiments hitherto made are insufficient to enable us to speak positively. The blood is often found to be covered with a buffy coat, with retracted and puckered edges as in acute rheumatism, even in the chronic form of albuminous nephritis; but M. *Rayer* is not inclined to agree with Dr. *Christison* that the quantity of the fibrine can be estimated from the thickness of this *couenne*. It is to be remembered that the size of the coagulum is usually considerably smaller than in health; and also that the buffiness of the surface is not unfrequently owing to the co-existence of some secondary inflammation of the abdominal or thoracic viscera.

Independently of the more striking phenomena of chronic albuminous nephritis which we have described, there are some others that deserve to be noticed—for example, the marked diminution of the perspiration, the dyspnoea, sometimes accompanied with vomiting, and often with a diarrhoea, which, however profuse it may be, never causes any sensible diminution of the dropsical effusion. The breathing is almost always embarrassed, either from existing bronchitis, or pulmonary cedema, or hydrothorax, or from some other morbid affection of the lungs or heart, either antecedent or consecutive to the disease of the kidneys. In a few cases cerebral symptoms come on; the rapid invasion of these is almost always the sign of approaching death.

The *duration* of albuminous nephritis varies much, from a few months to several years. It is always difficult to determine with exactitude the epoch of its commencement, especially in hospital practice, as it is usually for the consecutive dropsy that the patients apply for relief, and they are not at all aware that they have any other complaint.

Once that the characteristic alteration of the urinary secretion is ascertained to exist, the physician, as we have already stated, may with tolerable confidence predict that, unless the patient is carried off by some accidental malady, some form of dropsy or another will almost inevitably ensue. But when this will take place, and, after it does, how long the

* The medium density in health is 1028 or 9; during the course of the disease it falls to 1020, and sometimes, even as low as 1013; the diminution seeming to be directly proportionate to the quantity of the albumen in the urine.

patient is likely to survive, it is not possible to form any reasonable conjecture.

"In the greater number of cases," says *M. Rayer*, "the dropsy continues until death—presenting, like the disease of the kidneys, remissions and exacerbations at longer or shorter intervals of time, or perhaps occasional amendments so considerable and so durable that the patient is enabled to attend to his business without much interruption for several years, and until the disease, assuming a more active form, forces him to keep bed and then terminates fatally more or less rapidly, in consequence of the supervention of a secondary complaint, such as some cerebral affection, or pericarditis, or pleurisy, or pneumonia, or gangrenous erysipelas, or perhaps obstinate diarrhœa, with or without vomiting and general fever."

Much will depend, as a matter of course, on the general constitution of the patient's body, whether this be cachectic or not, and on various other considerations which will necessarily be taken into account in forming our prognosis of every serious malady. This leads us by a natural step to consider

The Causes of Albuminous Nephritis.

The exposure of the body to cold and damp, or whatever has the effect of suddenly checking perspiration, as for example drinking a cold fluid while the skin is hot or sweating, is unquestionably the most frequent cause of the *acute* form of the disease; hence it is most commonly observed in those who are subjected to rapid changes of the temperature, such as bakers, workmen in glass-works and distilleries, and convicts who are kept at forced labour out of doors. The action of cold and moisture is most remarkable, where the disease follows scarlet fever during the period of desquamation. It is to the same agency that we can generally trace the exacerbations and relapses of the disease, when it has been once checked by a judicious system of treatment.

The *chronic* form of the disease may be induced by a variety of causes; but the most frequent of these, at least in France, is habitual or long-continued exposure to cold and damp. The most of the cases treated by *M. Rayer* have occurred either in workpeople, whose occupation exposes them to wet, or in persons who have been living in unhealthy, cold, and damp dwellings. The intemperate use of spirituous liquors increases much the predisposition to albuminous nephritis. Dr. *Christison* is of opinion that three-fourths, or even a larger proportion, of the cases in Great Britain, are attributable to this most pernicious practice; but, as the vice of intemperance is not nearly so prevalent on the Continent, our author cannot judge of the accuracy of this statement. The frequency of the disease in hackney-coachmen, porters at wharfs, &c., may be no doubt explained in this way.

Again, whatever tends to render the system cachectic is sufficient to induce disease of the kidneys in certain cases. *M. Rayer* states that he has seen several instances in which pregnancy also appeared to have a real influence in the development of albuminuria; but he does not endeavour to account for it. Scrofulous and syphilitic disorders have unquestionably, according to his experience, powerfully predisposing effects, especially in those who lead an intemperate life, and are exposed much to the vicissi-

tudes of weather at the same time; but he does not consider that gout, scurvy, or purpura, although the urine in these diseases is sometimes bloody and coagulable, have any decided tendency to produce a lesion of the kidneys. Pulmonary phthisis however seems to have a marked effect; so also have organic diseases of the heart, and likewise of the liver; although it must be confessed that the hepatic disease seems not unfrequently to be of quite as long standing as that of the kidneys—both being so often attributable to the same cause, the abuse of spirituous drinks.

M. Rayer is not satisfied, from the results of his own experience, that mercury can be regarded as an exciting cause of disease of the kidneys. He has for many years past been in the habit of using various preparations of this metal in cutaneous and hepatic affections, without having ever observed that it seemed to lay the foundation for any dropsical affection. That however mercury occasionally induces an albuminous state of the urine appears to be proved by the observations of Dr. Wells and Dr. Blackall. Christison also cites a case, which, in his opinion, goes to shew that the mercurial action has some influence on the development of the granular degeneration of the kidneys.

With respect to the sex and age, in which the disease is most frequent, it appears that it is unquestionably more common in males than in females, and its attacks seem generally to take place between the 20th and 40th year of life: it is of rare occurrence in old age.

Diagnosis.—The acute form of albuminous nephritis may, in most cases, be recognised without much difficulty, by the co-existence of an albuminous and often sanguinolent state of the urine with the rapid development of anasarca, and occasionally of dropsical effusion into some internal cavity. In no other acute disease do we meet with the re-union of these characters.

In a few cases no dropsical effusion takes place; but even then the peculiar state of the urine, accompanied with more or less febrile irritation and derangement of the general health, will be sufficient to diagnosticate the disease. Hæmaturia is perhaps the only complaint with which it may be mistaken; but in this we can generally recognise, at least with the microscope, the pure blood mixed with the urine; and, if such be not the case, then we observe fibrinous concretions or filaments floating in the water; the passage too of the urine is generally more or less painful, and the pain on one or on both sides of the loins is more severe than it ever is in cases of albuminous nephritis. It deserves to be noticed here, that in some cases—they are rare—of dropsy supervening upon scarlet fever, the urine will be found to contain neither any blood-globules nor albumen; but in by far the greater number of cases it is otherwise.

The *diagnosis* of the *chronic* disease is attended with much greater difficulty and incertitude than that of the *acute* form; whether we compare those cases that are accompanied with dropsy with cases where dropsy is produced from other causes, or, on the other hand, compare those cases of albuminous nephritis, in which dropsical effusion is not present, with certain diseases of the kidneys, or of other viscera, in which the urine either habitually or accidentally contains a more or less considerable quantity of albumen.

When, in a patient who experiences only trifling if indeed any pain in the loins, the urine is found to be of a low specific gravity, and contains albumen with only a small proportion of urea and the urates, the presence of chronic albuminous nephritis may be regarded as certain, especially if there be no disease of the heart existing at the same time. Even when there is, the chances of mistake are but small indeed, and for the following reasons. When the kidneys experience a passive hyperæmia and congestion of blood, in consequence of the obstruction to the free circulation through them, occasioned by some existing disease of the heart or lungs, the urine is apt indeed to contain a certain portion of albumen and sometimes also of red globules; but the quantity of these foreign ingredients will be found to be very irregular at different times, and to be much diminished by quietude and repose in bed—a change which we do not observe to take place in genuine disease of the kidney. Moreover the specific gravity of the urine and the proportion of the urea and urates are not affected; at least to the same degree. The dropsical effusion too caused by disease of the heart usually commences in the lower extremities and extends upwards, whereas that arising from a lesion of the kidneys is often first perceived in the face.

In diabetes, the urine is sometimes found to contain albumen; but then, at the same time, saccharine matter exists in it.

Again, when the urine becomes charged with mucus or pus, in consequence of disease of the pelvis of the kidney, or of the bladder, the action of heat or of nitric acid upon it will discover the presence of albumen. It might be deemed unnecessary to mention this, were it not that cases of *pyelitis* (inflammation of the pelvis and calices of the kidneys) and of cystitis have actually been published as examples of albuminous nephritis—the authors forgetting that the mere presence of albumen in the urine is not an exclusive phenomenon of the latter disease, and overlooking at the same time the presence of mucus or of pus, which are seldom or never found in the urine of patients affected with genuine albuminous nephritis, as well as other characters which distinguish the former maladies.

“When, after a few days’ indisposition,” says M. Rayer, “a patient is affected with serious cerebral symptoms, or with repeated attacks of vomiting, without dropsy; if, at the same time, the urine is strongly charged with albumen, and is of a low specific gravity, and if we cannot detect any existing disease of the heart or of the pelvis of the kidney, or of the bladder or urethra, the existence of chronic albuminous nephritis may be regarded as more probable than that of a primary cerebral affection. And if it is ascertained that the patient has been exposed to wet and cold, or that he has been addicted to the abuse of spirituous drinks, or that he had been affected with dropsy some months before, the diagnosis of renal disease may be asserted with still greater confidence.

If, while the urine exhibits the characters already indicated, there is no existing disease of the heart or large blood-vessels, nor any affection of the liver, nor the state of pregnancy be present, and if, under such circumstance, anasarca or other form of dropsy comes on, we have strong reason to regard the kidneys as the source of the evil.”

He confesses however that, in some complicated cases of disease of the heart and liver, it is exceedingly difficult, if possible, to determine whether

the dropsical effusion arises primarily from the lesion of these organs, or from that of the kidneys.

The dropsies, which not unfrequently supervene on protracted intermittent fevers, especially on those of the quartan type, are of two sorts;—one depending upon disease of the kidneys, and characterised by an albuminous state of the urine; while the other sort, whose mode of production is not well known, seem to be more immediately connected with the aguish state of the system, being usually curable by means of bark and other febrifuge remedies.

In conclusion, we must here remind our readers that it is only by studying attentively the *ensemble* of a case, and not by dwelling upon any single and unassociated symptom, that we can hope to arrive at any accurate conclusions in our diagnosis of renal disease; “there is perhaps not one symptom of albuminous nephritis, either acute or chronic, that is not occasionally met with in other maladies, and yet it is equally true that there is a series of symptoms which belongs only to this disease, and by which its existence may generally be detected.”*

Prognosis.—It is unnecessary to amplify much on this topic, as the scope of our remarks may be easily anticipated from many of the preceding observations. When the disease is acute, death sometimes very suddenly supervenes, in consequence of disease rapidly developing itself in the brain, or lungs, or pericardium. Hence the attention of the judicious physician will always be drawn to the state of these organs, as long as the urine remains albuminous or sanguinolent.

As to the chronic disease, it must always be regarded as one of very serious import; as long as the urine remains coagulable and of diminished specific gravity, the health of the person cannot be considered otherwise than very unsatisfactory, from the tendency that exists under such circumstances to development of various maladies, such as dropsy, pleuritis, cerebral affections, &c.

Any marked diminution in the quantity of the urine, when it is abnormal in composition, should always be viewed with especial suspicion, as this is not unfrequently the precursor of cerebral or thoracic mischief being established. The co-existence of disease of other organs, or a cachectic state of constitution, will necessarily render our prognosis in cases of albuminous nephritis more unfavourable: we shall recur to this topic when we treat of the complications of the malady, and shall therefore now proceed to that more interesting subject,

The Treatment.—The two chief causes which tend to develop albumi-

* M. Rayer mentions the thesis of M. Tissot in 1833, and that of M. Desir in 1835, as especially valuable in pointing out the various diseases in which the urine has been found albuminous. The milky state of the blood has been observed by Trail and Hewson in cases of simple nephritis, of hepatitis, of rheumatism and of asthma, as well as of granular degeneration of the kidneys: vide Christison, Ed. Med. and Surg. Journal, vol. xxxiii. Urea has been detected in the blood after attacks of simple nephritis, where the urine was not coagulable, and also in cases of atrophy of the kidneys.

nous nephritis, and the dropsy which is the consequence of it, being the sudden or prolonged impression of cold and moisture, more especially during the recovery from scarlet fever, and the abuse of spirituous liquors, the aim of the physician must be to guard against and counteract the influence of these agencies. And, although in the majority of cases professional assistance is not resorted to until the disease has existed for a considerable time, still there are some in which the practitioner, if he be upon his guard, may succeed in entirely preventing the establishment of the mischief. Hence the importance of examining occasionally the state of the urinary secretion during the course and stage of convalescence from attacks of scarlet fever, and of using all judicious means to preserve the patient from exposure to cold.

Among the poorer classes this precaution is the more necessary, for very obvious reasons.

With respect to the influence of intemperate habits, it has only been within the last few years that medical men have been aware of their tendency to induce a serious lesion of the kidneys. The liver and stomach have hitherto been considered as the organs that suffer most from intemperance; but it now appears that the kidneys are as liable to become diseased as they are. Whenever the urine of a person addicted to this vile custom is found to contain albumen, or when any œdematous puffiness is observed in the face, there is strong reason to suspect the existence of renal disease, especially when there is no existing affection of the heart or great bloodvessels. It is almost unnecessary to add, that if the habit is not abandoned by the patient, or if there be symptoms of co-existent phthisis or heart-disease, or when there is a venereal cachexia of the constitution, there is little or no chance of ultimate success for any mode of treatment.

Among the most useful of all remedies we must rank the detraction of blood, either from the arm, or by means of cupping over the loins. The quantity to be drawn will depend upon the severity of the febrile excitement, and the rapidity with which the dropsical affusion takes place. The frequency of the operation will be determined by the state of the blood drawn, according to the amount of its fibrinous portion and the thickness of the buffy coat. *M. Rayer* says that, as a general rule, it is safer to draw rather too much than too little during the acute stage of the disease.

If the pyrexia be not severe, one general bloodletting may be sufficient; but it is always well to follow it up with cupping over the renal region. Sometimes a troublesome erysipelatous inflammation appears round the wound in the arm or the cuts of the scarificator: but, by judicious treatment with soothing lotions, this may be usually subdued without much difficulty.*

If, after a week or two, the quantity of the albumen, which had been diminished by the means now recommended, again becomes increased, and

* It has been observed however, that erysipelas and other cutaneous affections are more apt to be troublesome and unyielding during the cachexia induced by nephritic disease, than in most other states of the system.

especially if there are present at the same time other signs indicative of a *recrudescence* of the renal inflammation, we should repeat the bloodletting and cupping; emollient cataplasms over the loins seem to be useful also under such circumstances.

As long as any febrile movement of the system continues, the patient should keep his bed, and drink freely of demulcent and slightly nitrated beverages, for the purpose of encouraging perspiration: the use of the warm-bath also is useful. When he is permitted to leave his bed, he should be warmly clothed, with flannel next the skin, and be enjoined to avoid all exposure to currents of cold air.

After the use of bloodletting, saline purgatives are to be administered, especially if the bowels are at all constipated. If dropsy is already established, or when there is any tendency to the supervention of cerebral symptoms, we must employ more active purgatives, such as jalap, gamboge, &c.*

When the stomach and bowels are irritable, and when the patient is distressed with severe vomiting or diarrhoea, the best remedies are warm baths, small doses of opium, and the application of leeches to the anus.

The food should be light and altogether unirritating; M. Rayer thinks highly of milk, *pour tout nourriture*, at least for several days.

So much for the treatment of *acute* albuminous nephritis; it is simple and obvious compared with that of the *chronic* form of the disease.

In the majority of cases, all that we can hope to effect is to arrest or suspend the morbid action; the complete cure is scarcely within our reach.

Whenever we have reason to suspect the existence of active hyperæmia in the affected organ, from a feverish state of the system or from the existence of local uneasiness, the application of the cupping-glasses should be resorted to; but we must be on guard not to employ depletory measures too far, when the renal lesion is suspected to be very serious.

Great mischief may be done by injudiciously lowering the powers of the system under such circumstances, and no benefit to the disease can be rationally expected.

During the course of chronic albuminous nephritis, there is apt to be, from accidental causes, an occasional aggravation or *recrudescence* of more acute symptoms; just as we observe during the progress of pulmonary phthisis, and other organic diseases. Then again the supervention of inflammatory attacks in other organs, as of the pleura or lungs, may require blood to be drawn; but let it be remembered that, whenever such attacks are grafted, so to speak, on renal disease, much more caution in the use of venesection is necessary than under ordinary circumstances.

A most useful means to arrest the progress of chronic lesion of the kidneys is the establishment of an issue or seton in the lumbar region.

M. Rayer has in several cases seen decided benefit derived from the internal use of the tincture of cantharides—10 or 12 drops in an emulsion: the dropsical symptoms have disappeared at the same time under its

* The *pulvis jalapæ compositus* of our pharmacopœias is one of the best forms that we can use: *elaterium* also is one of the most efficacious of all purgatives under such circumstances.—Rev.

use.* He confesses, however that it is "an uncertain remedy, and one that may prove dangerous in the hands of the inexperienced." Balsamic and terebinthinate medicines he has tried, but without good effects. Equally unsuccessful in his practice have been frictions with mercurial and ioduretted ointment over the loins.

The dropsical effusion may generally be got rid of for a time by the use of hydragogue cathartics : when the patient is much enfeebled, the addition of a ferruginous preparation to them is made with advantage. When there is gastric or intestinal irritation present, drastic medicines must be used with great caution, or be altogether omitted.

Dr. *Bright* has but little confidence in the greater number of diuretic remedies, and M. *Rayer* is inclined to agree with him ; he thinks that Dr. *Christison* has greatly exaggerated their value. Squill and digitalis, while they are most uncertain in their effects upon the kidneys, often disorder the stomach and distress the patient with sickness.

M. *Rayer* speaks well of a decoction of the wild horseradish : "of all diuretics it is the one which has appeared to me to offer the best chances of success."

Vapour baths have been found useful in the chronic, as well as in the acute, form of albuminous nephritis. When the dropsical effusion is considerable, they should be administered to the patient in bed. The use of certain diaphoretic medicines, especially the *Dover* and *James's* powders, has been much recommended by English writers ; but M. *Rayer* says that, after a fair trial of them, he has found them very ineffectual, and that the former often causes great sickness.

When the skin is not only dry but chilly also, the tincture of guaiacum has been occasionally found to be serviceable. In cases in which the anasarca goes on increasing, in spite of all internal remedies, it has been recommended to discharge the serosity by puncturing or scarifying the skin. The distressing, and sometimes fatal, consequences which M. *Rayer* has seen to follow these operations have led him of late to disapprove of the practice in almost every case. He admits that in dropsical effusion arising from disease of the heart it may be often employed, not only without danger, but with great benefit : not so, however, he thinks, in dropsy from disease of the kidneys, in consequence of the much greater tendency in the latter case of the punctures becoming inflamed and even gangrenous.

With respect to the treatment of those *secondary affections*, which so frequently complicate chronic albuminous nephritis, it is unnecessary to say much at present. Suffice it to state that, if they are of an acute character, they must be promptly subdued within the first twenty-four hours after their development ; and, on the other hand, if they be passive or chronic in their nature, we must not expect to do more than merely to

* Dr. *Wells* treated five cases of dropsy, in which the urine was coagulable, with large doses of the tincture of cantharides—from 30 to 60 drops in the course of the twenty-four hours. In three of the cases there was a marked amendment ; in one, the albumen disappeared from the urine. In the other two cases, there was no improvement. Dr. *Blackall* has remarked that the tincture seemed sometimes to increase the coagulability of the urine. It appears, therefore, that there are still some doubts as to its curative action.

palliate the more distressing symptoms. The following general directions are laid down by *M. Rayer* :—

1. Calomel in purgative doses, cupping over the mastoid region, and blisters to the nape of the neck, are the principal remedies against cerebral affections.

2. Inflammation of the bronchi, pleura, lungs, or peritoneum requires the usual antiphlogistic treatment; but the physician should remember that the weakness of the constitution, the alteration of the blood, the co-existence of dropsy, and the lesions of the kidneys and perhaps of other organs also, greatly diminish the chances of success.

3. Bitters, tonics, and creosote, are better remedies to allay the vomiting, so often caused by derangements of the urinary secretion, than ice, opium, gaseous draughts, cupping, &c.

4. Opiate preparations are most effectual against obstinate diarrhoea.

As to general regimen and diet, he lays much stress on the selection of a warm and dry locality for residence, on warm flannel clothing, on the use of light and easily digested articles of food, on the occasional use of warm aromatic baths, and on a prolonged course of steel medicines: a small portion of generous white wine may be allowed to the patient at the same time, if no symptom contra-indicates its continuance.

Having concluded this part of his subject, *M. Rayer* proceeds to describe more minutely the relations between albuminous nephritis and other diseases of the urinary organs, and also between it and various morbid lesions of other viscera and other parts of the system; illustrating his observations with the reports of numerous cases, drawn chiefly from his own experience. The cases we cannot find room for; but we shall now endeavour to lay before our readers the sum and substance of his valuable researches on this head.

“There are,” says he, “several striking analogies between simple nephritis and albuminous nephritis. Both are alike produced by the impression of cold and moisture. In the acute stage, (with the exception of pus, which is exceedingly rarely, if ever, met with in the albuminous disease) every thing is common: the injection of the parenchyma of the kidneys, the increase of their bulk, the yellow discolouration of their substance, &c. In the chronic stage, when this is far advanced, the lesions are so similar that, without various circumstances drawn from the course of the diseases, from the presence or absence of dropsical effusion and of the albumen in the urine, it would be impossible to distinguish the one from the other. But, on the other hand, some strong points of dissimilarity separate the two morbid states; and one of the most striking of these is without doubt the marked influence which diseases of the urethra, bladder, prostate gland, ureters, and pelvis of the kidney have on the development of simple nephritis, while they seem to exert little or none on that of the albuminous kind. Now this circumstance points out a great difference in the nature of these two renal affections.”

In simple nephritis, the pain in the loins is usually greater, and there is generally more or less of an uneasy numbness extending down the inside of the thigh; the testicle is often retracted, and micturition is more frequent and painful.

M. Rayer comments on several cases reported by different writers, wherein he thinks that an error of diagnosis was committed. Thus a case related by *Dr. Gregory* of albuminous nephritis coming on after the ope-

ration of lithotomy, he considers to have been one of simple nephritis, even although albumen and blood globules were found in the urine. Several of the cases too recorded in Dr. *Christison's* work, where the disease of the kidneys was associated with morbid states of the bladder, are in his opinion erroneously described as instances of the genuine *morbus Brightii*.

Alluding to one case in particular, No. XVIII. M. *Rayer* says:—"In this, as in several others, Dr. *Christison* appears to me to infer too readily the existence of the granular affection of the kidneys from the mere presence of albumen in the urine, although he is not ignorant that this phenomenon is common to several other maladies of the urinary passages."

A morbid state of the pelvis and calices of the kidneys is of much more frequent occurrence in simple than in albuminous nephritis; and for the reason that, in the latter disease, the inflammation is usually seated almost exclusively in the cortical substance of the affected organ. Now whenever the pelvis and calices are inflamed, there is always a morbid secretion of mucus, which mingling with the urine renders it more or less cloudy. By examining the deposit or cloudiness with the microscope, we may recognise the mucous globules and the debris of epithelium. Simple nephritis is often the result of a previous disease of the pelvis and calices; the albuminous kind is rarely or never.

The occurrence of particles (grains) of purulent matter in kidneys affected with genuine *morbus Brightii* is, according to the experience of M. *Rayer*, very rare; and, when he has met with them, he has always considered the phenomenon as the result of an accidental inflammatory attack of the organ.

*Relations of Albuminous Nephritis with Diseases of the Heart and Pericardium.**

Our author is of opinion that the influence of renal disease on the development of these maladies has been much exaggerated by English writers. He has met with numerous cases in which there was a co-existence of the two morbid affections, although not in the proportion observed by *Bright*;† but, in not a few of them, the cardiac disease was evidently antecedent to the disease of the kidneys. "If these were deducted from the entire number, there would remain a very small number indeed which could be

* One of the sections in this chapter in *Rayer's* work is headed "Albuminous Nephritis simulated by Diseases of the Heart."

The kidneys, as well indeed as all the other viscera, are liable to become congested with blood whenever there is any embarrassment of the circulation; when this is the case, the urine is apt to be charged with albumen, but its specific gravity is not much, if at all, affected, and the urea and the urates are not decidedly diminished.

† Dr. *Bright* says, that in 65 out of 100 cases of granular affection of the kidneys, was the heart found to be more or less diseased, and that in about one-half of these (65) cases it was remarkably so. M. *Rayer*, on other hand, says, that in not more than about a fifth of the cases which have come under his notice, he found, during life or after death, any notable alterations in the heart or pericardium.

considered as affections genuinely *secondary*, or owing their origin to a lesion of the kidneys;" and he adds, "Were I to judge from the results of my own observations, I should say that albuminous nephritis is most frequently added to cardiac affections, and is a secondary affection of them."

That the urine is often albuminous in patients affected with disease of the heart, when there is no serious affection of the kidneys, cannot be disputed by any experienced physician; but if, along with having this character, it is of a pale citrine colour, and of a low specific gravity, we have strong presumption that there is genuine renal degeneration existent.

With respect to the lesions of the pericardium that are unusually associated with the morbus Brightii, M. Rayer commences his remarks by stating that, "often in the course of this affection the pericardium contains a notable quantity—four or five ounces—of limpid serosity; but it is rare that the amount of this is so considerable as to constitute a genuine hydro-pericardium."

Every pathologist knows that, whenever there is a disease of the heart, there is always a strong disposition to its investing membrane becoming affected with inflammation or with dropsical effusion. We must therefore be upon our guard not to attribute these lesions on all occasions to the existence of renal disease, when there happens to be present at the same time any affection of the heart.

It is often difficult, as we have already stated, to determine as to the relative antiquity of cardiac and renal disease, when co-existent, and to decide which organ was primarily affected. Of this, however, we may be quite assured that, in all cases where the kidneys are diseased, the disposition to inflammation of the pericardium, and other organs, is greatly increased.

Hence, the importance of the physician having his attention frequently directed to examine the state of the heart, whenever the urine is found to be in an abnormal condition.

The remarks, which we have now made as to pericarditis in patients affected with renal disease, are equally applicable to the inflammation of the lining membrane of the cavities of the heart, or endocarditis.

Before closing our remarks on the connexion of renal disease with the organs of circulation, we may state that, in several cases, the bloodvessels of the affected kidneys have been found to exhibit certain lesions which seem often to have been induced by the extension of the inflammation of the cortical substance.

Thus the renal veins are sometimes considerably thickened, and their cavity filled with fibrinous clots. M. Rayer confirms the observations of Dr. Bright, that the small divisions of the renal artery are less easily penetrated by an injection thrown into them, than in a healthy state.

Relations of Albuminous Nephritis with the Diseases of the Respiratory Organs.

We are prepared, from the contents of the preceding pages, to anticipate that the lungs and their appendages will frequently be affected, when the kidneys are diseased; for when are the central organs of circulation

ever disordered, but there is a marked tendency to various morbid states of the pulmonary apparatus? Whoever has read the beautiful disquisition of Mr. *Wardrop*, in his work on the Heart, on what he has called the *pulmo-cardiac function*, will remember many striking illustrations of this fact.

M. *Rayer* says ;—" I have related several examples of the coincidence of pulmonary disease with simple nephritis. This complication is much more frequent in albuminous nephritis; and this frequency is such that it is impossible not to admit the influence of this disease on the development of certain lesions of the lungs and pleura, and, on the other hand, the no less remarkable influence of chronic pulmonary diseases on the affections of the kidneys."

We shall first allude to *Bronchitis*.

This is certainly the most frequent of all the complications or *secondary* affections attending chronic albuminous nephritis; it was present in seven eighth's of M. *Rayer's* cases. The bronchitis is generally in a chronic or passive form itself; and frequently there is so little distress in the breathing that the patient takes little or no notice of it. Not a few patients, however, labouring under renal disease, are cut off by a sudden aggravation of the bronchitic symptoms. As might be expected, little can be done by medicine, except to relieve the more urgent distress: we cannot hope to get rid of the disease altogether.

Pneumonia also is a not unfrequent secondary affection of several renal diseases, such as simple nephritis, albuminous nephritis, and diabetes. It is very often of the lobular kind, so well described by *Laennec* and other recent writers. Its symptoms are usually more or less masked in consequence of the cachexia of the constitution; and it has been found that the stethoscopic signs have in many cases been very unsatisfactory or even fallacious. It is unnecessary therefore to say how cautious should the physician be in watching his patient. If the pneumonic attack be acute, he will probably sink under it, whatever treatment be adopted. M. *Rayer* thinks favourably of the tartar-emetic in full doses, in such cases. Besides bronchitis and pneumonia, *pleurisy*, with or without effusion, is not unfrequently developed; occasionally also *œdema of the lungs*, *pulmonary apoplexy*, &c.

M. *Rayer* dwells at considerable length on the connexion between *phthisis* and albuminous nephritis, and is of opinion that the latter disease is much more frequently induced by tubercular cachexy, than *Bright* and some other writers seem to suppose. Certain it is that the urine is often found to be albuminous during the course of phthisis, and that the kidneys, if not exhibiting the necroscopic appearances of genuine granular degeneration—and even these are occasionally present—are usually more or less diseased. The co-existence of any renal disorder will always aggravate the pulmonary affection, and probably hasten on the fatal termination. M. *Rayer* remarks that in several cases he has observed the colliquative sweating to cease altogether, when any œdema of the limbs took place in a phthisical patient. On the whole he should say, from the results of his own experience, that albuminous nephritis was more frequently a secondary affection of phthisis than *vice versâ*.

Relations of Albuminous Nephritis with Diseases of the Alimentary Passages.

There are various diseases of these passages that are very frequently developed during the course of albuminous nephritis, of which they seem to be the results and consequences. Occasionally aphthæ appear in the mouth and fauces; the English physicians, who have been too apt to have recourse to mercury in renal disease, have observed that the gums, &c. are more readily affected with this mineral in it than in other disorders.

Edematous angina, a very fatal complaint, has been noticed in several cases, and especially in those which have followed attacks of scarlet fever.

The functions of the stomach are very commonly disturbed more or less severely; nausea and vomiting being present in a considerable proportion of cases, more especially in the latter stages of the disease. Small doses of magnesia, lime water, hydrocyanic acid, or creosote—given a few minutes before eating or drinking—will sometimes check this troublesome symptom. Opium, æther, brandy, and such like medicines, in certain cases, answer better. If the vomiting is not arrested by the use of these means, the application of a blister or of a moxa to the pit of the stomach will sometimes succeed.

In two cases M. *Rayer* found on dissection an extensive *ramollissement* of the mucous membrane of the stomach. When this lesion exists, the vomiting is usually observed to be aggravated by taking anything into the stomach, whether food or medicine. Under such circumstances enemata and the endermic exhibition of remedies must be trusted to.

Diarrhœa is a symptom which still more frequently accompanies disease of the kidneys than even vomiting; it was present in more than one half of the cases observed by M. *Rayer*. However profuse it may be, it seldom induces any diminution in the dropsical effusion. On dissection, we usually find patches, more or less extensive, of great vascular injection in different parts of the small intestines; the mucous membrane is sometimes much softened, and occasionally exhibits a deep chocolate colour. Ulcerations here and there are not unfrequently observed, and the mucous follicles are apt to be puffy and swollen: in some cases however the only morbid appearances discoverable is an anæmic pallor of the intestines. Dr. *Christison* recommends a pill composed of three grains of the acetate of lead and half a grain of opium, to be given three, four, or even six times a day.

Peritonitis is one of the least frequent of the secondary affections induced by albuminous nephritis.

Morbid changes of the liver are not so often co-existent with renal disease as might have been expected. *Bright* states that in eighteen cases only out of 100 of granular degeneration of the kidneys did he find any serious alteration in the texture of the liver; and the results of *Rayer's* researches seem to lead to a similar conclusion. In almost all the cases—viz. where the liver was decidedly diseased—the spleen was observed to be more or less altered from its normal condition.

Relations of Albuminous Nephritis with Cerebral Affections.

"Cerebral affections," says M. *Rayer*, "occur but rarely in the course of this disease; but often, shortly before death, there supervenes a state

of coma, analogous to what is not unfrequently observed during the progress, and especially towards the close, of a number of diseases of the kidneys, and more particularly of grave simple nephritis.* Attacks of apoplexy, coma, epileptiform convulsions, and sudden death—either without any appreciable lesion of the encephalon, or, which is more frequent, with subarachnoid and ventricular effusion—are the most common complications of albuminous nephritis; but they seem to be rather of an accidental than of a genuinely secondary or consecutive character.” Whenever they do occur, they must always be regarded as very alarming symptoms. It is by no means necessary that the urinary secretion be suppressed, or even at all diminished, before a state of complete coma comes on. *Christison* assures us that he has seen it to supervene and prove speedily fatal, when the patient was passing from two to three pints of urine daily; and, on the other hand, he has observed in some cases the secretion to be exceedingly reduced in quantity, without any threatening of cerebral symptoms. Coma rarely occurs in the early stage of the disease, except indeed where this has followed upon an attack of scarlet fever. We may again mention that Dr. *Barlow* obtained nitrate of urea from the fluid effused into the cerebral ventricles of a patient who, while labouring under disease of the kidney, died from an attack on the brain.

Relations of Albuminous Nephritis with Eruptive Fevers.

The condition of the urinary secretion during the course of the regular exanthemata has hitherto met with but little attention from medical men;—except indeed during scarlet fever. In some cases of measles and also of small-pox, as well as of scarlet fever, the urine is observed to contain a certain quantity of blood, and consequently of albumen; and, after death, the kidneys have been found gorged with dark blood, and occasionally coagula have been found in their pelves. *M. Rayer* has knowledge of one case of albuminous nephritis occurring during the period of convalescence from confluent small-pox; and Dr. *Gregory* has cited a similar case, attended with dropsical effusion, following an attack of measles. But such instances are, at least as far as we yet know, only of casual occurrence; the subject however, it must be admitted, requires much more attentive examination than it has yet received, before we can decide how far either of these eruptive fevers has a tendency to induce the development of renal disease. As a sequela of scarlatina, albuminous nephritis, both in its acute and in its chronic form, is by no means an unfrequent phenomenon.

M. Rayer examines the connexion between these two diseases at great length, and, we need scarcely add, with admirable candour and ability. This chapter of his work is exceedingly worth an attentive perusal, and had our limits allowed, we should have most gladly followed him through his interesting description. The two important conclusions, which he draws from his researches are these:

* *Rayer* alludes, in terms of praise, to a paper read by Dr. *Wilson* before the London College of Physicians in 1835, and also to a valuable communication by Dr. *Addison*, published in the Guy's Hospital Reports for April 1839.

1. That in certain cases of scarlatina—especially during its later stage, that of the desquamation of the skin,—the urine is more or less highly charged with albumen, without dropsy supervening; the kidneys, under such circumstances, being found on dissection, to be highly congested with blood, and exhibiting lesions which altogether correspond with those, already described as characteristic of the first form of albuminous nephritis, induced by exposure to cold and damp or by the abuse of spirituous liquors.

2. That the anasarca, which frequently follows scarlatina*—by its mode of development and prognosis, by its occasional cause (the impression of cold and moisture), by its general diffusion, by the alteration of the urinary secretion which accompanies it, by its abdominal, thoracic, and cerebral complications, by the lesions discoverable on dissection, and by the results of remedial treatment—cannot but be considered analogous with the dropsy supervening on acute or chronic albuminous nephritis, when this has been induced by other causes.

When albuminous nephritis is developed after an attack of scarlatina, it usually appears towards the close of the third, or the commencement of the fourth week after the appearance of the eruption. The patient, who for some days previously may have been very well, becomes uneasy and somewhat feverish; the sleep is disturbed, the appetite is impaired, and sometimes nausea and vomiting are present. A few days afterwards a puffiness is noticed about the eyelids; this gradually extends to the rest of the face and to the neck, and thence to the extremities and trunk; in some cases, the œdema shews itself almost quite suddenly over the whole surface of the body at the same time. The urine is almost always much diminished in quantity; and is usually voided frequently and with some difficulty; it is of a deep reddish-brown colour, and often contains a portion of blood mixed with it. Suspended in it may be seen a flocculent whitish matter, resembling unclarified whey, or (when there is any admixture of blood in the urine) the water in which raw flesh has been macerated. Its specific gravity will generally be found more or less below the normal standard. There is usually considerable pyrexia present; the action of the heart is strong or even tumultuous; and the breathing is quickened and oppressed. In some cases the head, in others the chest, and in a third set the abdomen is the seat of the chief suffering and danger.

The acute form of albuminous nephritis has been known to come on very suddenly after scarlet fever, when the patient has been incautiously exposed to cold, and to prove fatal within forty-eight hours after the attack, either from convulsions, or coma, or asphyxia supervening.

When the disease has the passive form from the first, there is often little or no pyrexia present; but the patient does not recover his strength or

* "I here speak," says M. Rayer, "of the dropsy which is most usually observed; for it is well known that, after scarlet fever, we sometimes meet with some forms of dropsical effusion induced by other causes (affections of the heart, diseases of the liver), and which cannot be attributed to any morbid state of the kidneys."

appetite: his sleep is disturbed, and there is a general uneasiness. By and bye, the face or the extremities are observed to be somewhat œdematous; the breathing perhaps becomes oppressed; and the anasarca becomes more and more diffused. If the urine be examined, it will be found in almost every case—the exceptions are exceedingly rare—to be albuminous, and to be of a lower specific gravity than in health. Whenever the urinary secretion is in this state, the physician ought to be on his guard, whether dropsical symptoms have made their appearance or not; for some cerebral* or thoracic affection may suddenly supervene and cut the patient off in a day or two, in spite of the most active remedies.

It is scarcely necessary to dwell upon the mode of treatment to be followed in albuminous nephritis, whether it be accompanied with dropsy or not, after attacks of scarlet fever; as this must be conducted on quite the same principles as those which we have explained in a previous part of this paper. Whether the disease be of the acute or of the passive and chronic form, the patient should be kept in bed, and perspiration be promoted by the use of vapour or of warm baths, and of tepid demulcent drinks. Bleeding, general as well as local, will be required according to the character of the existing symptoms. Drastic purgatives and stimulating powerful diuretics are on the whole hurtful; the milder forms of these remedies are decidedly better. When the disease is considerably protracted, and at the same time is unattended with fever, recourse should be had to the use of tonics, as steel or quinine in some bitter infusion, and of wine.† The repeated application of blisters over the loins has in many cases greatly promoted the quickness of the cure.

M. Rayer does not allude to the administration of mercury under any form in the treatment of renal disease, whether this be of an acute or of a passive character: we may therefore suppose that he does not approve of it.

Before quitting this part of our subject, that regards the connexion of albuminous nephritis with the pyrexia, it may be well to state that, in typhus and also in yellow fever, the urine has been occasionally found charged with a certain portion of albumen, with or without blood globules; but this symptom alone is not, it is to be remembered, pathognomonic of the existence of albuminous nephritis, unless the other peculiar abnormal changes in the secretion be present at the same time; and such is seldom the case. Moreover dropsy is of very rare occurrence indeed after either of these forms of fever.

* Not a few cases of the *wasserschlag*, or sudden hydrocephalus, have occurred under such circumstances.

† Dr. Hamilton records a very instructive case of dropsy after scarlatina treated with stimulants. He was called in great haste to see a young child, who was dangerously ill with dropsy after this disease; the extremities were cold, the lips livid, and the breathing exceedingly oppressed: indeed Dr. H. did not expect her to survive the night. He ordered a blister to be applied on the chest, and as much punch, made with gin or whiskey, to be given to the child as she could be made to drink. These remedies quickly induced a great amendment; the urine became much more copious, and all the unfavourable symptoms subsided: ultimately she quite recovered.

After intermittent fevers, on the contrary, dropsical effusion, into the general cellular substance and into the abdominal cavity, is by no means unfrequent. It is now well known that dropsy, occurring under such circumstances, is by no means always of the same nature or yields to the same mode of treatment, as has been hitherto too generally believed. In one case, the œdematous swelling of the feet and of the face quickly disappears under the use of quinine and steel: the disease, in such cases, seems to be generally connected with enlargement of the spleen. In another case, the dropsy, it would appear, is connected with a renal affection, the urine being found to be more or less highly albuminous, and the disease exhibiting the same symptoms and the same general progress as we observe usually in albuminous nephritis. Such cases are to be treated on the principles explained in a former part of this article; but, should there be a co-existing enlargement of the spleen, or any return of the agueish symptoms, the administration of bark will be required at the same time.

M. *Rayer* devotes a few pages to point out the not unfrequent connexion of renal disease, and an albuminous condition of the urinary secretion with scrofulous maladies. If such patients have been exposed to wet and cold, or are of intemperate habits, the disposition will be greatly increased.

The venereal cachexia also is, according to our author's experience, a powerfully predisposing influence to the development of albuminous nephritis. *Wells*, *Blackall*, and some other writers, have attributed the disease, under such circumstances, rather to the action of mercury than of syphilis on the system; but M. *Rayer* leans to the opposite opinion. This point requires further examination, before we can arrive at any exact conclusions.

"There is one circumstance," says our author, "that I wish to direct the reader's attention to, and it is this; in almost every case of chronic albuminous nephritis which I have met with in patients affected with constitutional syphilis, the liver was in an unhealthy condition. Had it become so from irregularities of diet, or from the abuse of spirituous drinks? This I have not been able to determine in many of the cases. I may add that, having observed pretty frequently similar maladies of the liver, but without any lesion of the kidneys, in persons affected with constitutional syphilis, I have been led to the opinion that these alterations of the liver appear to me to be connected with the syphilitic cachexia. When the liver is diseased, but without any co-existing renal affection, the urine is usually scanty, and of deep red colour, and deposits a lateritious sediment, even when ascites is present; on the contrary, when the kidneys are simultaneously involved, the urine is of pale yellow colour, more or less charged with albumen, and without any brick-dust sediment. I know few diseases, which have less chance of any relief than these complicated affections of the kidney and liver occurring in a venereal habit of body: a good deal however may sometimes be done by a judicious use of the tisan of Feltz, the pills of Sedillot, and some of the preparations of opium."

M. *Rayer* closes his account of albuminous nephritis with an elaborate historical narrative of the most striking descriptions, in the works of different writers from the time of the early Greek writers down to the period of Dr. Bright's first publication in 1827, of the diseased conditions of the kidneys most frequently found in cases of dropsy, and of the subsequent

discovery of albumen being occasionally present in the urine. This narrative has been drawn up with great care and candour. It shews, in the first place, that many of the older physicians, from the time of Hippocrates himself, through the period of Arabian literature, down to the middle of last century, have repeatedly pointed out the frequent existence of disease of the kidneys in cases of general dropsy, and that it has been only within the last 60 or 70 years that the influence of such disease has been overlooked: so true is the saying, that "nothing is so new as that which is forgotten." Hippocrates uses these remarkable words:—"Dropsies supervening upon acute diseases are always dangerous, for they do not free the patient from fever; they increase the existing pains, and often terminate fatally. Some dropsies proceed from the flanks and the loins, others from the liver. In the first set the feet swell, and there is often a most obstinate diarrhoea, which however does not abate the pains in the loins, nor empty the abdominal effusion." Aëtius is still more exact; he distinctly tells us that persons, who are affected with induration of the kidneys, become in the long run dropsical. Van Helmont repeatedly alludes to the kidney being the "artifex" and "principalis effector" of dropsy. Bonetus, describing the appearances found on dissection in a case of dropsy, says that "the kidneys had quite lost their natural colour, and had become of an almost milky-white colour," and Morgagni still more accurately describes the lesion in these words; "both kidneys were irregular in their surface, and spotted over with numerous white spots."

In 1825, M. Andral, in his description of a case of dropsy in which there was no existing disease of the heart or of the peritoneum, draws the attention of his readers to the state of the kidneys in the following passage: "there was, however, another organ which exhibited an alteration that must not be forgotten: this was the kidney, the cortical substance, and part also of the tubular substance of which were changed into a whitish granular substance, divided into small masses or grains, interposed between the remaining portions which retained their natural red hue. Had this peculiar alteration of the kidney," he asks, "caused any obstacle to the free secretion of the urine, and thereby contributed, in a manner more or less direct, to the production of the dropsy? However this may be, it was the only lesion discoverable on dissection; but if the cause of the disease in this case is obscure, the cause of death is very apparent; it was evidently owing to the double hydrothorax."

The second part of M. Rayer's historical narrative gives an account of the various publications, which notice the occasional presence of albumen in the urine, from the time of Cotugno, in 1770, down to the present time. He mentions with especial praise the memoir of Cruickshank, in 1798, and the papers by Dr. Wells, in the Transactions of a Society for the improvement of Medical and Surgical Knowledge, which he remarks are "trop peu connus" in France. The works of Blackall, Nysten, Prout, (l'auteur des travaux les plus remarquables faits sur les alterations de l'urine dans ces dernier temps), &c. are successively noticed. The reader is thus brought down to the period when Dr. Bright published "son beau travail," Reports of Medical Cases, in 1827. The subsequent works and papers by Drs. Gregory, Christison, Craigie, Barlow, Copland, Hamilton, Seymour, Willis, &c. in this country, and of MM. Tissot, Monassot,

Desir, Martin Selon, &c. in France, are each noticed and commented upon.

"Arrived," says our author, "at the end of my work on albuminous nephritis, it now only remains for me to call the attention of the reader to some points in the history of this disease. And first, he should especially attend to the marked differences which it presents in its acute and in its chronic form—differences which I have thought it my duty the more to insist upon, seeing that hitherto they have not been explained with sufficient clearness, and medical men have too long and too generally supposed that the *morbus Brightii* was an *organic* affection. This opinion has been the source of many serious errors entertained as to the nature and curability of the disease; it has given rise to discussions which, having no true foundation, could end in nothing satisfactory. The constitution of the urine is not the same in the two forms. All writers have given, as an important character of the urine in *Bright's* disease, a diminution of its specific gravity; now, not only is this character not true of the urine in the acute form of the disease, but the very reverse is most frequently the case. The diagnosis of the two forms is, besides, the more necessary as the antiphlogistic mode of treatment, so often efficacious in the acute form, is generally either quite useless or positively hurtful in the chronic form. Physiological pathology will necessarily attend much to the phenomena of albuminous nephritis in all enquiries as to the production of dropsy. It is certainly not easy to explain, in some cases, the mechanism in which this takes place. It has been supposed that the mere impoverishment of the blood from the loss of its albumen was the immediate cause; but then, if this is always the case, how comes it to pass that dropsical effusion sometimes occurs very rapidly, before the loss of the albumen of the blood is at all considerable? and that in other cases hæmaturia may exist for months and even years, and yet no dropsy supervene?"

Lastly, I would again impress the extreme importance of using all means to guard against the influences of cold and damp in every case where the urine has once exhibited the phenomena of albuminous nephritis; many a relapse might be avoided by this precaution."

We take leave of *M. Rayer's* work with the deepest respect for the talents, the industry, and candour of its author. Besides his high merits as a clinical physician, he is a "ripe and good" scholar, well informed in the medical literature of other countries as well as of his own. We know of no foreign work that better deserves a translation, compressed and annotated as a matter of course, than this *Traité des Maladies des Reins*.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

Notices of some New Works.

A NEW OPERATION FOR THE CURE OF AMAUROSIS, IMPAIRED VISION, AND SHORTSIGHTEDNESS. In an Letter, addressed to John Richard Farre, M.D. &c. Physician to the London Ophthalmic Hospital, Moorfields. By *James J. Adams*, F.L.S. G.S. Member of the College of Surgeons. 8vo. pp. 50. London: John Churchill.

THE division of the recti muscles of the eye would seem to be still the rage. The gentleman before us has applied it to the treatment of *amaurosis*.

He refers the origin of many cases of this complaint to a peculiar affection of that portion of the optic nerve which intervenes between the optic foramen and the ocular globe. He cautions us, however, that the term *amaurosis* means with him simply a dim or darkened sight, without implying any organic disease of the optic nerve. "Having thus," he adds, "restricted the term *amaurosis* to the expression of a symptom, common to many diseases of the eye, namely, dim or darkened sight; a necessity arises for distinguishing, by an additional term, the different cases of impaired vision in accordance with their degree or cause; therefore, as the cause of the *amaurosis*, which will form the subject of the following pages, will be found to depend on muscular action, and not on any disease or change of structure in the nerve, I propose to distinguish it from all the other forms of blindness by the term *Muscular Amaurosis*."

His account of the symptoms is as follows:—

"In the simple forms of the disease the *objective* symptoms are few, they may be subdivided into two, namely, those which exist within the eye, and those which relate to its position and motions. Of the former very little can be said, since they consist only of slight variations from the natural condition of the pupil; the iris may be more dilated and less active than natural, and the colour of the pupil may be somewhat less brilliant than usual, though not to that degree which is recognized as a turbidity of the humours. Of the latter more may be observed; the position of one eye, and generally of the one most affected, may be slightly diverged so as to constitute a peculiar stare, but not a squint; also if the eye least affected be closed, the affected one may become violently inverted, which will be increased by any effort on the part of the patient to straighten it by looking directly forwards, though he may have perfect power to direct the eye to the outer canthus if he wills it; again, if both eyes be open and an object be held directly in front of the root of the nose, one eye may be apparently attracted towards the object, or turned towards its inner canthus, while the other will be repelled or moved towards its external canthus, so that the patient may be found to have scarcely any power over the equal convergence of both eyes.

Though these symptoms are frequently found either separately or conjointly, it is not unfrequent to find them all entirely absent, and only the natural appearances of the eye present.

The *subjective* symptoms are, in the uncomplicated forms of the affection, numerous and liable to much variety, and may like the *objective*, for convenience sake, be subdivided into two kinds, namely, those which affect the sight, and others which affect the feelings of the patient. Those which affect sight may commence in several different ways, either suddenly, gradually, or irregularly, in one or both eyes at the same time. If suddenly in both eyes, the patient may, while following some ordinary occupation, or on his first rising in the morning, find himself blind or nearly so; if one eye only be affected, he will feel conscious of seeing objects on the affected side less perfectly than on the opposite; this condition may rapidly pass away, or continue for several hours, then gradually cease or lessen; but on the first active exertion or application of the eye to fine work, or reading, the patient is surprised to find that he cannot see small objects for more than a few minutes at a time before they appear misty and confused; it will sometimes not advance beyond its first degree, but remain stationary for many years; at others, it will advance very rapidly, and the sight become so defective that the patient cannot see to guide himself about, though the amaurosis will very rarely be found complete, except for during a few hours at a time. In some instances the first failure of the sight is attended by a bright yellow or red spot, or, indeed, a mixture of them both; the yellow being encircled by the red.

If the disease commence gradually in both eyes, the patient at first will merely complain of the eyes feeling weak and soon fatigued after moderate exertions; this state may continue without any particular attention being paid to it, till at last he finds that on waking in the morning the sight is very dim, and remains more or less so during the time of his dressing, and that in the day time it has become much worse than it used to be, distant objects are less distinct, and near objects cannot be viewed for so long a time without a dimness and confusion of vision being produced. If he attempts to read, the book is brought closer to the eyes than is usually natural in order that he may see the print distinctly, and this he may do for the space of ten or twenty minutes, when the sight will become gradually dim, the letters confused, and (as it were) running one into the other: if the patient continues to look at the print for the space of a few seconds, it will become distinct, then misty, again distinct, and again misty, till at last the mist will increase and remain to such an extent that the form of the largest letter cannot be seen, and he will become for a short time more or less blind. However, if the eyes be closed for a few seconds, the sight will be again restored, and the patient once more enabled to see to read distinctly; though instead of being able to read for twenty minutes, before the symptoms of confusion and dimness of vision commence, he will find that he cannot read during more than *ten* or *fifteen* before another rest will be required, and that of a longer duration than the first, even perhaps, to three or four minutes; at the end of which time the sight will again become fit for reading, but for a still shorter period: perhaps not more than five minutes will elapse before the confusion of the letters will require another period of rest, of a still longer duration than the preceding; thus the increasing inability to maintain a clear view of an object will continue, until at last the patient will find it impossible, even after a long rest, to see any near object for more than a few seconds together; he is therefore compelled to give up, for many hours, or for the remainder of the day, the employment of his eyes on the subject which causes the dimness. When the disease has advanced to this state, he, in all probability, cannot see to read a single line of print by candle light; should it have commenced gradually in one eye the inconvenience will be somewhat less than above described. The gradual form of the disease, like the sudden, is always liable to a rapid increase in its severity."

Some cases follow, and they are succeeded by an account of the operation performed by Mr. Adams:—

"The operation which I propose, for the cure of muscular amaurosis, consists

in the division, and *the extensive separation* of one, two, or more of recti muscles : of which, be it observed, the separation must be *equal and even* in each instance. The mode by which I perform this operation I have made peculiarly my own, by adapting a particular set of instruments to it, and by requiring, for its perfect success, a very extensive separation of the muscle, not only from the sclerotica, but from the cellular tissue and conjunctiva which lies in front of it. A description of the instruments I employ, with a detailed account of the steps of the operation may be seen in the Provincial Medical and Surgical Journal, No. 22, Vol. I. p. 356, and the instruments may be obtained at Weiss's."

The reason for Mr. Adams' proceedings will be found in this etiological paragraph.

"I venture to believe that no cause will be found so likely in its consequences to produce the peculiar disease of which we have been considering, as the arrangement of the recti muscles with respect to the nerve, for whatever the cause may be, it must possess the power of *acting suddenly*, of varying its degree by becoming *complete or incomplete* by turns, and of *changing from eye to eye*; moreover, of *existing without danger to the life of the patient*, and, frequently, *without in the least degree altering the healthy and natural appearances of the eye, from childhood to old age*.

I am therefore of opinion that the peculiar form of amaurosis, here designated by me as *Muscular Amaurosis*, depends on the bending or partial folding, and compression of the optic nerve, caused by the shortening and thickening of the recti muscles during a state of morbid contraction, which further may be attributed to an affection of the third and sixth nerve, probably at or near to their origins."

Those who would know more about the matter we must beg to refer to the pamphlet itself.

THE ORATION DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, at their Sixty-Eighth Anniversary, March 8, 1841. By *W. D. Chowne*, M.D. Member of the Royal College of Physicians, London, &c. 8vo. pp. 71. London, 1841.

To those who know Dr. Chowne, a complimentary mention of him will appear unnecessary. Few members of the Medical Societies of London have distinguished themselves more honourably by zeal for the advancement of medical science. The oration before us is highly creditable to its author, and gave great satisfaction to the body that it was addressed to. We are tempted to notice one passage in particular, because it embodies our own sentiments, and reads, we think, an useful lesson of scepticism in these credulous days. Not that we deem credulity more rife than heretofore—there was no need of that—but it is almost as rife as ever, and much too rife for the 19th century. The following is the passage to which we alluded, and which we may offer as a sample of the whole.

"The pleasure which arises from the belief that a new remedy has been discovered, the charm of novel modes of treatment, the reliance which bold and confident assurances are calculated to command, all conspire to take the judgment by surprize, and to obtain even for error, a place in the society of doctrines that are true, and sound, and based on the testimony of time, of experience and of strict impartiality. This association, however, is happily of but short duration, yet, short as it may be, it is injurious to the interests of the public, and disparaging to the character of our profession. In the outset of life, the young and the sanguine of all professions are liable to be misled by that which is the natu-

ral result of immature experience, too much hope and too much confidence; but however amiable and generous these may be, or however much they adorn the character, and are beautiful qualities in their relation to private life, they are not suited to the advancement of a grave, important, and complex science, such as that in which we are engaged; on the contrary, few things tend more to that object, than the exercise of sound and guarded discrimination, in the yielding or withholding of confidence, where new doctrines are the subjects of consideration.

Those who can look back, through a series of years, upon the phantasies which have been boasted into ephemeral fame, by the dupe, by the enthusiast, and by the empiric in turn; who have seen these visions come and go, ushered into being with *pretensions* the most *ostentatious*, but exemplifying, in their rapid lapse into neglect, their utter worthlessness and nothingness, will hold themselves more than justified for the exercise of that which the world calls scepticism, and for increasing their reserve, in proportion as the claims upon their faith, may have been confidently and authoritatively advanced; they may perhaps, deem themselves excused, should they, with more than common freedom, entertain the opinion that suspicion ceases to be a failing, where the questions relate to a science of facts, and where the character of the science, and the public health, (of which that science is the accredited, and should be the faithful guardian,) are involved in the issue."

MEMORANDA ON FRANCE, ITALY, AND GERMANY, WITH REMARKS ON CLIMATES, MEDICAL PRACTICE, MINERAL WATERS, &c. To which is added an Appendix on some of the Predisposing Causes of Disease, and on the Advantages of Travel and a Residence Abroad. By *Edwin Lee*, Esq. M.R.C.S. &c. 12mo. pp. 342. London: Saunders and Otley, 1841.

MR. LEE is very favourably known by his writings on the Spas of Germany. He is an intelligent English Surgeon, observant of what presents itself, and judicious in reflecting on it. All we can be expected to do is to notice a few points, which may seem to possess utility or novelty.

Climate of Paris.—The principal advantages which Paris has over London consists in the greater purity, clearness, and dryness of the atmosphere, its freedom from smoke and fog, and in the weather being less variable from day to day, as the summers are hotter, and the winters equally cold, if not colder. The average quantity of rain throughout the year, Mr. Lee conceives to be as great in Paris as in London. It would not, therefore, be advisable to select Paris as a winter residence for persons labouring under pulmonary complaints, (except perhaps some cases of asthma and sympathetic bronchial affection,) or rheumatism. Paris agrees very well with many dyspeptic invalids, to whom the light cookery of the French *cuisine* is better suited than the more substantial fare usually met with in Britain, which requires greater powers of digestion, always provided the invalid abstains from ragouts, rich sauces, or highly-seasoned dishes, and from indigestible vegetables, as truffles or mushrooms. The valetudinarian who labours under depression of spirits, combined with disordered digestion, would likewise frequently find himself better after a few months sojourn in Paris, which offers more resources for mental relaxation and amusement than any other city, not excepting London. Baths are also more general, which is a great advantage to invalids.

Among the most prevalent diseases of Paris may be enumerated inflammations

of the respiratory organs, (especially in the winter and spring,) consumption, typhoid fevers, intermittents, rheumatism, chronic inflammation of the stomach and bowels, various forms of dyspepsia, and scrofula. Apoplexy, paralysis, and nervous diseases in general, appear much less frequent than in England; where also indigestion is more common, especially among the commercial and trading part of the population, and those whose avocations are of a sedentary nature, as clerks and others who have much writing or head-work.

French and English Surgery.—"I consider that the English treatment of the majority of surgical cases is also much preferable to that of the French and continental surgeons in general; and I do not speak from slight observation, when I state my conviction that many cases become the subject of operations in France which would be cured in England. While allowing the French to have great merit as skilful operators, I have no hesitation in stating, that their attention is too exclusively directed to local applications, and the performance of operations, as the means of removing surgical diseases; whereas comparatively little is known of the general and constitutional treatment by medicines, in which the British surgeons so much excel, and which so frequently obviates the necessity of having recourse to the more mechanical part of the art. Even diseases of the eyes, which are so obviously influenced by general treatment, were a few years ago, and are still to a certain extent, treated in Paris almost entirely by local applications."

Disgraceful State of the Hospitals at Marseilles.—The hospital which contains the foundlings is especially badly ventilated; the children being placed two, and sometimes three together in the same cradle, swathed up so as to prevent movement of their limbs, and the curtains of their cots closely drawn. I could not refrain from expressing to the physician who accompanied me, my astonishment and indignation at this mode of treatment, which must annually cause the death of a considerable number. He was disposed to lay the blame upon the administration, who would not grant a sufficient number of cradles; but it must surely have been in his power to prevent the nurses from altogether excluding the air, by keeping the curtains closely drawn around the cradles, which were scarcely large enough to contain the infants. The worst managed of these establishments, however, is the hospital, or rather, as one of the directors of the administration of hospitals termed it, the place of detention for the insane. This gentleman expressed himself ashamed to conduct me through the establishment, and not without reason, as the state in which it is allowed to remain reflects discredit upon all who have to do with it, and upon the town. The patients walk about, or are huddled up in corners of the courtyards, (the women's department being separated by a wall from the men's) around which are small cells, with iron grating instead of windows, many of them dirty, and containing one or two beds, with no other furniture. Some were even without beds, the occupant lying in a corner upon straw; chains were lately occasionally made use of as a means of repression, but the strait-waistcoat is now usually employed. At meal-times each patient receives his portion of soup or bread, eating it in the courtyard, or in his cell. A few cells on the first floor are fitted up as rooms for patients whose friends pay for their maintenance, and who are separated from the rest, and are better fed. No medical treatment appears to be adopted, except depletion in cases of violent mania.

Peculiar agréments of French Watering Places.—Notwithstanding its scenic beauties, and the efficacy of its waters, Bagnères would not be an attractive summer residence to most English visitors, unless fond of seclusion, as the French, when *aux eaux*, associate very little with those whom they have not previously known. There are no public *reunions*; the accommodations in most of the French

baths are very inferior to those of the German; and the presence of vermin in the beds, &c., is not unfrequently complained of. Each family is served with dinners from a *traiteur's*: there are few *tables-d'hôte*, and those only at the larger baths, for the accommodation of travellers. With the exception of two or three places, living is not dear at the Pyrenean baths; persons, for instance, may be boarded and lodged during the season at Bagnères de Luchon or Bagnères de Bigorre for five or six francs a day. Both England and Germany are, however, deficient in hot sulphur springs; and in cases where they are indicated, there are none in Europe (Aix la Chapelle perhaps excepted) which are so efficacious as those of the western Pyrenees.

Bagnères de Bigorre lies near the foot of the *pic du Midi*, and is the largest and most frequented of the Pyrenean watering places; a great proportion of the visitors remaining more for pleasure than for health. The number of English is at times not inconsiderable from Pau or other places in the South of France, or Italy. Many persons likewise pass some time at Bagnères, after having taken a course of one or other of the springs in this part of the country. It stands seventeen hundred feet above the level of the sea; is encircled on all sides but the north by green hills and pine-covered mountains, and is consequently one of the coolest Summer residences in the Pyrenees. The resident population amounts to eight or ten thousand, and the resources for amusement are greater than at the other baths. Bagnères was a great place of resort in the time of the Romans, by whom it was termed *Vicus aquensis*. There are numerous well-shaded walks and roads in the immediate environs; those which are most frequented are the *Allées Bourbon*, the garden *Theas*, and the valley of *Campan*.

The bathing establishments are numerous; the principal one belonging to government, termed the *Thermes de Marie Therese*, is an elegant structure of white stone, the interior of the bathing cabinets being composed of different coloured marble. The baths are thirty-six in number, and are exceedingly convenient, each having a dressing-room attached to it; over the door is inscribed the name of the spring by which it is supplied. Those of *La Reine*, which is the hottest, and the *Dauphin*, are most used. There is likewise every requisite apparatus for douche and vapour baths. As the water is too hot to be used at its natural temperature, it collects into large reservoirs at the back of the establishment, where it is cooled.

Frascati's is another bathing establishment, and also a lodging-house, which contains the public rooms for balls, billiards, and the newspapers. A single person may board and lodge here for about six francs a day. Other lodging and bathing-houses are supplied by particular springs, as the *Pinac*, *Lasses*, *Petit Prieur*, *Santé*, &c.

All these springs are saline, and in their composition are not unlike those of Baden-Baden or Bath, though they contain much less saline substance. Their temperature ranges from 27° to 35° R.

What a delightful place Barèges is.—No spot would seem to be less calculated for the situation of a bath than Barèges, which consists of a single street on the acclivity of the mountain, with the impetuous *gave de Bastan* foaming beneath. For nine months in the year the place is deserted, being left in the keeping of about twenty men, who pass the winter there to prevent its being occupied by the wolves, which not unfrequently take up their abode in the houses. As it frequently happens that the winter occupants are completely shut out from any intercourse with the valley by the snow, they are obliged to lay in a stock of provisions and fuel for three or four months, and on the return of fine weather, assisted by others from below, begin to clear the road, and ascertain the damage that has been effected; as many of the houses are every year carried away by the torrent, or overwhelmed by the avalanches. At the time of my visit in May,

numerous workmen were employed in digging away the snow beneath which several houses were buried, and in getting the place a little in order for the season, which begins about the middle of June, from which period till September it is crowded with invalids, who certainly would not resort thither for pleasure, or unless they had learned from experience the efficacy of its mineral springs. This, by the way, may not be quite so certain.

In the centre of the street is a small square, on one side of which are the baths, on the other a military hospital, supported by government, for wounded soldiers, the number of which amounts to about four hundred, that of the visitors being about eight hundred, or a thousand, almost all of them invalids, and many who are not able to walk, or hardly to get about on crutches. There is only one table-d'hôte, and each party is served separately from a *traiteur*'s; nor is there any society, and, as may be supposed, the climate is bad enough, so that existence in the place for several successive weeks would be unbearable, were it not for the benefit anticipated and experienced from the springs. In the bathing establishment there are sixteen private baths; but most of the patients bathe in the *piscinæ* or public basins. Douches are a good deal used, the water falling from a height of five or six feet from reservoirs through tubes about as thick as a man's fore-arm. The *piscina* for the hospital patients—but in which several visitors likewise bathe—is an oblong vaulted chamber with stone walls; the water is about three feet deep, and flows into the bath through a wooden trough, beneath which those who require the douche hold the affected part. About sixteen persons can bathe at the same time. The springs *la Douche*, *la tempérée*, and *Polard*, are the most used; the temperature of the former is 44°, that of the second 33° R., and about 30° in the *piscinæ*, which are badly ventilated, and filled with vapour, which induces copious perspiration. There is likewise a *piscina* for indigent patients. The average number of baths required by patients is from thirty to forty. Though the springs are almost exclusively used for bathing, there is one drinking spring. They are strongly sulphurous, and more energetic in their action than any others in the Pyrenees, but they do not emit so disagreeable a smell as others of the same class, which contain a large proportion of sulphuretted hydrogen, as in these the sulphur exists principally in the form of sulphuret of soda. The cases in which they are most efficacious are scrofulous diseases of joints and other enlargements, rheumatic and paralytic affections, old ulcers and wounds, especially when there are foreign substances, as bullets, pieces of clothing, &c. lodged in the body, (the expulsion of which not unfrequently takes place during the course,) and some eruptions on the skin.

Cauterets lies in the secluded valley of Lavedan, surrounded by scenery of the most romantic kind. It chiefly consists in a single street, which widens out into a square. The resident population amounts to about fifteen hundred, and about two thousand visitors could be accommodated in the season, during which period it is generally thronged, especially by the Parisians, with whom it is a favourite summer retreat. Apartments are, consequently, often exceedingly difficult to be obtained, and are mostly very dear. In the square is the *Hôtel du Cercle*, where there are public rooms for reunions, but there is little general association among the visitors, so that a stranger who does not possess resources within himself, would, notwithstanding the magnificence of the scenery, find Cauterets but a dull residence. There are two or three tables-d'hôte, but they are not well attended. Cauterets has not the advantage of shaded walks, (the only rows of trees being in an enclosure behind the town, which serves for a promenade,) and from its being surrounded by lofty-peaked mountains, the summits of which are covered with perpetual snow, the reflection of the sun's rays must be, at times, severely felt, notwithstanding its elevated position; and what must be a great inconvenience to invalids, the bathing establishments, with one exception, are out of the town, some of them being at a distance of more than two miles.

The temperature of the springs varies from 21° to 40° R. The composition of the water is very analogous to that of other springs in this part of the Pyrenees, containing principally sulphuret of sodium, carbonate, sulphate, and muriate of soda, with carbonic acid and azotic gases in small quantities. The Raillière is the spring mostly used for drinking; it has a high reputation in pulmonary and nervous affections, and in dyspeptic cases.

Besides these springs, however, there are others in a different direction, which are much more sulphurous than the southern group, and are chiefly used for baths. The transitions of temperature are at times very great and sudden.

"Though the composition of some of these Pyrenean springs be not materially different, yet they differ considerably in the important circumstances of temperature and locality, and certain of them have acquired a special reputation in particular complaints. Thus, Barèges is recommended, *par excellence*, in cases of old wounds, ulcers, or long-standing affection of the bones; Bagnères de Luchon, in gouty, rheumatic, and cutaneous diseases; St. Sauveur in nervous complaints, and some local affections to which women are subject; while Canterets, from the number of its springs, and the difference of their temperature, can be adapted to most of the above-mentioned indications. The greater number of patients are perhaps those labouring under the various forms of indigestion, and pulmonary complaints, or a tendency to consumption. The number of those with rheumatic and cutaneous diseases is likewise considerable."

How well adapted such a situation must be for the consumptive, we leave our readers to determine.

Climate of Nice.—Mr. Lee quite agrees with Sir James Clarke in the opinion that Nice is not suited for the Winter residence of consumptive patients, or those in whom there exists much irritability of the air-passages. The air is too sharp and exciting, and the occasional cold winds are severely felt. Those persons, however, in whom there exists a predisposition to consumption, or even those in the earliest stage of the disease, will often derive considerable advantage from passing November, December, and January, at Nice, provided there be not much acceleration of pulse or cough. The climate is generally of great service in chronic bronchial disease, particularly the catarrhal affections of elderly people, attended with copious secretion of mucus, and in those forms of asthma where there is little tendency to inflammatory action. I have known some persons labouring under these complaints who have passed several successive Winters at Nice. Patients with chronic gout, rheumatism, and paralysis, (the latter when not from apoplectic attacks,) as well as those whose general health has become deranged by a residence in tropical or unhealthy climates, will in general derive benefit from wintering at Nice; as will also many nervous hypochondriacal, and scrofulous patients, and those of a cachectic habit of body, with a languid circulation. Several of these cases will be likely to derive much more advantage from climate by the previous employment of mineral waters; the combination of these means offering, in my opinion, the greatest probability of cure and amelioration in long standing disordered states of the health, where a generally alterative and renovating treatment is indicated. I have, during the last seven or eight years, been in the habit of recommending many invalids, especially those with pulmonary complaints, to leave Nice before the middle of February, about which period inflammation of the lungs and bronchia is very common among the inhabitants. Several persons, by remaining throughout the Spring, have lost the advantage which they had gained during the preceding months; and though it may not seem to be a pleasant thing to travel at this season, yet, but little difficulty is experienced in proceeding to Rome or Pisa, as the coast-road to Genoa is always passable, and, except immediately after heavy rains, is in good condition. The constant passage of steam-boats likewise presents a rapid mode of conveyance to those who may prefer it.

Nice frequently disagrees with healthy persons of an irritable or plethoric habit, inducing headache or derangement of the digestive organs. The diet, both of those in health and invalids, will require particular attention, as several articles which agree very well in England, not unfrequently disagree with people at Nice. Wine, in particular, should be taken very sparingly. Those who remain during the Spring should avoid exposure to the sun's rays, by remaining in-doors in the middle of the day, or by carrying an umbrella, as there are no shady walks in the immediate neighbourhood of the town. Invalids should likewise avoid being out at sunset, as there generally arises an exhalation from the earth at that hour.

With respect to the choice of a residence, the Croix de Marbre appears to me to be the preferable situation for the majority of invalids. The villas in the neighbourhood of Cimiez are less convenient in many respects, especially with regard to dinners, which at Nice are usually sent from a *traiteur's*. When, however, a villa is preferred, one should be selected a little elevated above the plain, on account of the moisture which frequently arises from the irrigated meadows after sunset. The houses near the Corso, which have a southern aspect, are not objectionable, but those in the Piazza Carlo Alberto, and along the left bank of the Paglione, are less eligible on account of their northern aspect, and greater exposure to the winds, which sometimes sweep down the bed of the river with great violence. The *maison Gilli* is one of the best situated lodging-houses in the Croix de Marbre. There are also several new houses near the bridge not in an exposed situation. The *pension Anglaise* will be found a comfortable residence for small parties and single people.

Hospitals of Florence.—The hospitals here, as in many other parts of the Continent, are superintended by Government, and patients are admitted on application, without any other recommendation than that of their requiring medical assistance. The Spedale Santa Maria Nuovo is a handsome building, containing eight hundred beds; the wards are clean, spacious, and well ventilated. The professional treatment of the sick is in general judicious, and somewhat similar to the practice followed in France. Among the town practitioners, the abstraction of small quantities of blood is very common, which has frequently the effect of debilitating the patients, without effectually checking the progress of inflammatory attacks. Aperients, tonics, and other substances which are considered irritating, are generally avoided.

The Spedale di Bonifazio contains about the same number of beds as the other hospital, and is divided into two parts: one for the insane, the other for persons afflicted with incurable diseases, and for military men.

The number of insane patients in this hospital is about three hundred. Small cells, having each a window with iron bars, and containing a bed, are placed on either side of passages about fifty feet long. Each patient has a cell to himself, but in the daytime they are allowed to walk about the passages and in the open courtyards. All are clothed alike in a white woollen dress. The greatest attention is paid to cleanliness throughout the establishment; patients on their first arrival are isolated, in order that the peculiarities of their malady may be observed by the physician. When confinement of the hands is necessary, a wooden case (*manchet*) is used, into which both hands are placed, and confined by means of a strap passing round the waist. Furious patients are sometimes placed for a short time in a small darkened room well padded round the walls, the darkness and solitude being found to render them more tractable: moral measures are but little adopted in the treatment, though some of the patients are employed in mechanical occupations or gardening; the women in knitting, spinning, &c. The system formerly in use, of employing depleting measures every Summer, is now discontinued.

Medical Practice of Rome.—The treatment of disease inclines somewhat to that, which was prevalent in France some years ago; small bleedings are considered by many of the local practitioners as an almost universal panacea. In fact, a great proportion of the surgeons are little else than mere phlebotomists, and are but little calculated to treat either medical or surgical diseases. The physician is usually called in to prescribe for the constitutional disorder induced by surgical disease or by accidents; the part of the surgeon being limited to local applications or bandages. Tonics or exciting remedies (among which are reckoned aperients) are in general avoided, though in the malaria fevers large quantities of bark are given with advantage: sedative remedies, as prussic acid, henbane, &c., are not unfrequently exhibited, but the treatment of acute disease is principally of the expectant kind.

Medical Treatment in the Neapolitan Hospitals.—No particular exclusive theory is followed in the treatment of disease, different practitioners having different methods; but small bleedings, frequently repeated, are very general, as in other parts of Italy; and numerous sign-boards may be seen in the streets, at the barber-surgeons, representing the figure of a man with blood flowing in a full stream from the arms, legs, and neck. Stimulating, tonic, and laxative medicines are not frequently exhibited, but sedatives are more commonly used.

The most prevalent diseases are inflammation of the lungs and air-passages, consumption, rheumatic, gastric, and nervous fevers, and diseases of the eyes.

Death of Homœopathy in its Native Land.—"At the time of my former visit I was anxious to see the homœopathic hospital, of which I had previously heard, Leipsic being the head-quarters of this doctrine. I expected to have found at least forty or fifty beds filled with patients; but was rather surprised to find that the building (which is a small house in the suburbs) only contained eight, and even of these all but two or three were unoccupied. At my last visit to Leipsic, I understood that matters were going on badly with homœopathy, which indeed is now comparatively little heard of in Germany and France, and only required to be understood by the public for its absurdity to be apparent, though there will always be credulous individuals who are to be caught by any novelty, when presented under a specious appearance, and backed by an unintelligible name. During its whole progress it never was sanctioned by any individual of eminence in the profession, and was principally taken up as a means of acquiring wealth or a livelihood by persons who had never been previously heard of, or who were known as having failed to acquire practice by the honourable exercise of their profession; by whom every means were taken to puff it into notice, and to keep public attention directed to it; such as repeated histories of cures, the establishment of dispensaries, of which, I believe, the only one that remains is the above-mentioned at Leipsic, even if it be still in existence, for a few months before my arrival the house-physician having become convinced, during a residence of some time in the dispensary, of the nullity and danger of homœopathy, gave up his appointment, and published an exposition of the system pursued, with an account of cases, which clearly shows—what had long been evident to the bulk of the profession and the public,—that the so-called cures were recoveries from ordinary ailments by the efforts of nature, which were frequently a long time under treatment, whereas, by a proper medication and attention at the outset, they might probably have been removed in a few days, and that many of the more serious cases got worse instead of better, for the want of active treatment. It must not be supposed that the homœopathists always adhere to the principles of the doctrine. It has not unfrequently happened that persons who attributed their recovery to homœopathy were treated allopathically without their being aware of it. In fact, one practitioner in Leipsic, a professed homœopathist, candidly acknowledged that he pursued both plans of treatment, and was accus-

tomed to ask his patients by which method they would be treated, as both were equally good."

We suspect that all homœopathists are not equally candid. The clever rogues prescribe allopathy, while they talk homœopathy. But the reign of any particular humbug (there is really no name so appropriate, albeit coarse) is short-lived—though the stock is so extensive that it is never worn out, and the market good enough to make it worth while to keep *some* article always upon sale.

We think our readers will agree with us that Mr. Lee's book contains a good deal both of amusement and of information.

AN INQUIRY CONCERNING THE DISEASES AND FUNCTIONS OF THE BRAIN, THE SPINAL CORD, AND THE NERVES. By *Amariah Brigham, M.D.* New-York. 1840.

THE object of this useful little book is to direct attention to the diseases of the nervous system, diseases which have increased, and probably will still increase, with the advance of civilization.

The nature of the work precludes any thing like an analytical account of it. We may pick out, however, some passages for notice.

Division of the Skull into Regions.

Dr. Brigham regrets that this has not been agreed on, for the purpose of rendering descriptions of injuries exact and clear. He recommends the following division of the cranium.

Let a line from the root of the nose to the middle of the back of the neck, corresponding to the longitudinal sinus, be called the *median line*. Let another from the meatus externus of one side be extended over the head to the other, called the *transverse line*. Then describe the injuries of the skull in reference to these lines, by inches and parts of inches.

For example, the precise situation of a wound would be made known, if said to be on the right or left side, and an inch and a half anterior to the transverse line, and an inch from the median. Its situation might, in some cases, be better understood by referring to other marked points on the head, as the eyebrows, and their angles.

Summary of the Results of Pathological Investigations.

Dr. Brigham observes that the better part of what we know of the functions of the brain has been derived from pathology. Experiment has been peculiarly barren of results. The following is his resumé of what has been determined. We fancy that it must be taken with a reservation.

First.—That the cerebral lobes, or the hemispheres of the cerebrum, are the seat of intelligence.

Second.—That the cineritious portion of these lobes, probably, is, the seat of the mental faculties.

Third.—That the fibrous or medullary portions of the brain are connected with the motive powers, and transmit volition and sensation.

Fourth.—That the lobes of the cerebellum are not connected with the manifestations of the mental powers, but are with the motive; and appear also to be with the sexual propensity, and that the sympathy between them and the stomach is intimate.

Fifth.—That all the faculties of the mind may be manifested by one hemisphere of the brain.

Sixth.—That the different parts of the brain have different functions, and that the anterior portion of the cerebral lobes play the most important part in manifesting

the mental powers, and appear to be the seat of the memory of words, events, and numbers.

Seventh.—That the striated bodies and the thalami are intimately associated with the motive powers of the extremities.

Eighth.—That parts in the middle and at the base of the brain, such as the fornix, corpus callosum, septum lucidum, pituitary body, and pineal gland, are not connected with the mental faculties.

Increase of Inflammatory Diseases of the Brain.

Dr. Brigham refers, as a striking proof of this, to the *Report of the City Inspector of the Interments in the City and County of New York* for above thirty years, from the commencement of making returns of deaths to the City Inspector in 1804 to the year 1838.

From the tables of the deaths from different diseases it appears that, while the population of New York has only quadrupled in the last thirty years, the deaths from inflammatory affections of the head, or from inflammation and dropsy of the brain alone, has increased more than twelve fold.

In the six first years of this period the deaths from these two diseases, which may be regarded as identical, were as follows:—

	1805.	1806.	1807.	1808.	1809.	1810.
Inflam. of brain,	17	16	15	17	18	12
Dropsy do.	16	22	30	28	28	42

	1833.	1834.	1835.	1836.	1837.	1838.
Inflam. of brain,	101	120	150	159	161	155
Dropsy do.	305	347	382	268	365	368

The population of the City of New York has risen during this time as follows:—

1805	75,770
1810	96,373
1815	100,619
1820	123,706
1825	166,086
1830	197,112
1835	270,089

It will be perceived that the most alarming increase has been of dropsy of the head, an inflammatory affection of the membranes of the brain and mostly confined to children.

It also appears that the same diseases have of late greatly increased in England and France.

According to the late Dr. Davis, of London, eight out of forty-five deaths, in the *Universal Dispensary* were produced by Dropsy of the brain, and Dr. Allison states that forty out of a hundred and twenty patients die of this disease in the *New Town Dispensary*, London. Marshall, in his *Mortality of the Metropolis*, London, from 1629 to 1831 says that since 1790 deaths from dropsy of the brain have been on the increase and to an alarming extent, the number being for the last few years about 800 per annum.

Dr. Coindet says that 20,000 deaths annually occur from the same disease in France.

Dr. Brigham very naturally attributes this to overdone cultivation of the intellect, on the part of the parent and offspring.

History of St. Vitus.

Perhaps this may be new to most of our readers.

“He, St. Vitus, was a Sicilian youth who, together with Modestus and Crescentia, suffered martyrdom at the time of the persecution of the christians, under Diocletian, in the year 303. The legends respecting him are obscure, and

he would certainly have been passed over without notice among the innumerable apocryphal martyrs of the first centuries, had not the transfer of his body to St. Denys, and thence, in the year 836, to Corvey, raised him to a higher rank. From this time forth, it may be supposed that many miracles were manifested at his new sepulchre, which were of essential service in confirming the Roman faith among the Germans, and St. Vitus was ranked among the fourteen saintly helpers (Nothhelfer or Apotheker). His altars were multiplied, and the people had recourse to them in all kinds of distresses, and revered him as a powerful intercessor. As the worship of these saints was however at that time stripped of all historical connexions, which were purposely obliterated by the priesthood, a legend was invented at the beginning of the fifteenth century, or perhaps even so early as the fourteenth, that St. Vitus had, just before he bent his neck to the sword, prayed to God that he might protect from the dancing mania all those who should solemnize the day of his commemoration and fast upon its eve, and that thereupon a voice from heaven was heard, saying, 'Vitus, thy prayer is accepted.' Thus St. Vitus became the patron saint of those afflicted with the dancing plague, as St. Martin, of Tours, was at one time the succourer of persons in small-pox; St. Antonius of 'those suffering under the hellish fire,' and as St. Margaret was the Juno Lucina of puerperal women."

Influence of Attention on Bodily Organs.

Dr. B. devotes a few pages to this subject. A not uninteresting nor unimportant one. He assures us that he has seen tumours, ulcers, and eruptive diseases increased and perpetuated, solely by mental attention directed to the disordered part.

Diseases of the eyes are thus increased, also diseases of the urinary organs. Bowel affections, particularly diarrhoea, are aggravated and sometimes caused by mental attention. During the prevalence of the Asiatic cholera in America, when every person had heard of the premonitory symptoms, there were but few who did not have some of these symptoms, especially griping pains in the abdomen, flatulence, diarrhoea, &c.

In prisons, where the discipline was such as to prevent any communication of intelligence from without, the cholera was not heard of, and did not prevail among the prisoners.

"So strict is the seclusion, says Mr. Crawford,* in the Eastern Penitentiary, Philadelphia, that I found, on conversing with the prisoners, that they were not aware of the existence of the cholera which had but a few months before prevailed in Philadelphia.

To their ignorance of the existence of the cholera may doubtless be ascribed, in a great measure, their preservation from this disease, not a single convict having been attacked by it during the whole period that it prevailed in the city of Philadelphia, although the hospital for the reception of patients was in the neighbourhood of the prison. The powerful effect of alarm on the bodily system was singularly illustrated at this period at the Massachusetts State Prison. The chaplain having taken occasion one Sunday, from the pulpit, to advert to the ravages of the cholera, most of the prisoners who composed his congregation were, on retiring to their cells, seized with a complaint which it was greatly feared would lead to, but which happily did not terminate in, malignant cholera."

Some of the disorders of the air-passages, of the larynx, trachea and bronchia, are kept up by attention. Some coughs are thus aggravated.

* Report of William Crawford, Esq. on the Penitentiaries of the United States, addressed to his Majesty's principal Secretary of State for the home department. 1835, p. 11.

Affections of the fauces and throat are kept up by the same cause. Every one knows that attention to the act of swallowing increases the difficulty of performing it. If there is some soreness of the throat, this attention produces more disordered action, more soreness, and more difficulty in swallowing and speaking. Dr. B. conceives that this often perpetuates soreness of the fauces and difficulty of speaking, of which clergymen have of late years complained.

This latter affection we have generally found occasioned by relaxation of the mucous membrane of the palate and fauces. Actors are liable to the same thing, which is occasioned no doubt by over exertion of the parts.

"In some instances," says the Doctor, "I have known the attention of clergymen, when thus affected with soreness of the fauces, and apprehensive of a protracted disease, to be diverted from their complaints by strong mental anxiety, and then recovery rapidly ensued. I have also known severe affection of the throat of the kind alluded to, disregarded by clergymen after a few days of ordinary medication, and have known them to preach with the soreness still upon them, and yet recover rapidly.

As I have said there are some cases of soreness of the throat and loss of voice depending on other causes, that are truly deplorable, often protracted for a long time and not unfrequently incurable. These arise from some affection of the brain, or of the nerves distributed to the organs of the voice. Sometimes the affection of the brain or nerves is only functional, arising from some overwhelming mental emotion, such cases may continue for a considerable time and then suddenly recover. Sometimes they yield suddenly to strong mental emotion, as anger. Laughter cured in one instance.

But in other cases the affection of the brain or nerves, that causes the loss of voice, depends upon some alteration of structure, and may be incurable. The injury of the nerves of voice, which prevents them from duly performing their functions, causes soreness and inflammation of the parts to which they are distributed."

Dr. Brigham remarks, that not only will mental attention aggravate, but it will also relieve disease. Kant was able to forget, by the strength of *thought*, the pains of gout and other diseases. The mental effort, he says, required great effort of the will and caused the blood to rush to his head, but never failed to afford relief.

The influence of the mind—of mental emotion, in causing and curing disease are altogether too much disregarded by medical men. While grief, fear, remorse, are as depressing as any measures we ever resort to, hope and faith are more powerful tonics than bark and wine. Innumerable are the instances that might be adduced in proof of this. Let the following suffice. When the plague raged at Messina, in 1743, the second of July, the Tutelar Deity, (Holy Mary, mother of God,) was taken down and carried in procession through the city. The plague stopped immediately.

In the life of Lord Chief Justice Holt, says Armstrong, a curious anecdote is recorded. When a young man, Holt had a flow of animal spirits which could not well be restrained, and he happened on one occasion, with some companions, to stop at an inn in the country, where they contracted a debt of such amount that they were unable to defray it. In this dilemma they appealed to Holt to get them out of the scrape. Holt observed that the innkeeper's daughter looked remarkably ill, and was told by her father she had an ague. Hereupon he gathered several plants and mixed them together with a great deal of ceremony, afterwards wrapping them in a piece of parchment, upon which he had scrawled certain letters and marks. The ball thus prepared he hung about the young woman's neck, and the ague did not return. After this, the never-failing doctor offered to discharge the bill, but the gratitude of the landlord refused any such thing, and Holt and his companions departed. When he became Lord Chief Justice a woman was brought before him accused of being a witch. She was

the last person tried in England for witchcraft. She made no other defence than that she was in possession of a certain ball which infallibly cured ague. The ball was handed up to the judge, who untied it, and found it to be the same identical ball which he had made in his youthful days for the purpose of curing the woman's ague and paying his own bill.

Dr. Brigham collects several cases illustrative of the effects of mental excitement and depression. The following is, we dare say, known to many of our readers.

The late Mr. Pott was called in consultation on a surgical case: it was suspected that the patient had stone in the bladder. Mr. Pott examined him, found a stone, and abruptly said, I congratulate you on having your complaint perfectly known, for you may be cured by an operation. He observed a remarkable change in the patient's countenance, and having left him, went home. His assistant called in the evening and found the man dead.

In conclusion we think that the reader of this unassuming little work will obtain a good deal of instruction.

THE CURE OF STRABISMUS BY SURGICAL OPERATION. By *William Mackenzie, M.D. &c.* Being an Appendix to his First, Second, and Third Editions of his "Practical Treatise on the Diseases of the Eye." 8vo. pp. 30. - London: Longman & Co. 1841.

Mr. Mackenzie's reputation commands attention for everything which falls from him connected with ophthalmic surgery. The present brochure on the operation for strabismus presents us with a very useful account of all that has been ascertained upon the subject. It is quite a manual on the matter.

We shall select some portions for notice.

Mr. Mackenzie's Method of Operating.—The opposite eye being covered with a compress and roller, an assistant standing behind the patient, with the forefinger of one hand raises the upper eyelid, and with that of the other depresses the lower.

The operator, standing before the patient, desires him to turn his eye, as much as he can, in the direction which puts on the stretch the muscle about to be divided. If the case is one of convergent strabismus, he desires him to look outwards to his temple; if it is one of divergent strabismus, he desires him to look inwards to his nose.

We shall suppose the case to be one of convergent strabismus. The reader will easily conceive that many of the observations which occur in these pages regarding the cure of convergent strabismus, may be applied to that of the divergent variety by substituting *abductor* for *adductor*.

The steps of the operation, then, are as follows:—

1. With the forceps, the operator lays hold of the conjunctiva transversely, midway between the edge of the cornea and the caruncula lacrymalis, and raises it in a horizontal fold.

2. With the scissors, he snips this fold through vertically, along with the subjacent cellular substance, and then enlarges the incision, thus begun, upwards and downwards, so that it extends to half an inch in length.

The incision should not be nearer the cornea than half-way between its edge and the caruncula, lest in attempting to pass the blunt hook under the tendon, the operator find it impossible to do so, from the close attachment of the tendon to the sclerotica; nor ought it to be farther from the cornea, else the operator will require to penetrate deep by the side of the eyeball to reach the muscle.

The conjunctiva is merely to be slit up to the extent specified ; it is not to be dissected from the subconjunctival fascia, nor is any portion of it to be cut away. In this way the wound will heal more readily, and the eye be less apt to protrude after the operation.

The incision of the conjunctiva is generally made in a vertical direction. In operating for divergent strabismus, it appears to be Mr. Elliot's plan to open the conjunctiva horizontally. Perhaps the incision made in this direction will gape less than a vertical one, but more separation of the membrane from the subjacent fascia will be required, to bring the tendon into view. A frænum will also be apt to form between the cicatrice of the conjunctiva and the external canthus.

3. The patient again everting the eye as much as he can ; and the parts, if obscured with blood, being sponged, the operator insinuates the point of the blunt hook under the lower edge of the tendon of the adductor, and slides it up between the tendon and the sclerotica, till its point appears above the upper edge of the tendon. If there is any difficulty in bringing out the point of the hook at the upper edge of the tendon, from its carrying the fascia before it, the operator snips this through with the scissors, and frees the point of the hook.

In this part of the operation, unless the incision be nearer than usual to the cornea, or the operator take the trouble of removing a portion of the fascia, it is rarely the case that the fibres of the tendon are distinctly perceived. They are obscured by the fascia, which is now generally injected with blood. The operator, therefore, introduces the point of the hook where he thinks the lower edge of the tendon should be, and pressing it close along the surface of the sclerotica, he takes up on the hook every thing that lies between the sclerotica and the surface exposed by the incision of the conjunctiva. The hook, entering the cavity of the capsule, where the cellular connexion of the tendon to the sclerotica is naturally very loose, is easily passed beneath the tendon. This part of the operation, therefore, gives little pain, unless the hook is not sufficiently bent, or the bent part too long, so that it must be brought out over the eyelids, and by putting the muscle on the stretch, drag severely on the eyeball.

It is seldom that the patient is unable to evert the eye sufficiently, to allow the first and second steps of the operation to be performed, with no farther assistance than what has now been mentioned ; but it sometimes happens that he cannot continue the eversion, at least to the necessary degree, to permit of the third step. In this case, the operator lays hold with the sharp hook, of the tunica tendinea, or, in other words, of the tendon of the muscle, where it is exposed through the incision of the conjunctiva, and without passing it deeper than the surface of the sclerotica, he moves the eye into the everted position. This he effects with a very slight degree of traction. He then intrusts the sharp hook, thus fixed, to an assistant, and proceeds to pass the blunt hook.

If artificial eversion is called for at the commencement of the operation, which sometimes is the case, especially in children, the operator passes the sharp hook through the conjunctiva and into the tunica tendinea, about one-fifth of an inch from the inner edge of the cornea, and having drawn the eye into the position required, intrusts the sharp hook to an assistant, till the first, second, and third steps of the operation are completed. After the blunt hook is passed under the tendon, the sharp hook may be removed.

At whatever step of the operation the sharp hook is used, it must be fixed in the tunica tendinea. It is useless to fix it in the conjunctiva ; as this membrane, when we endeavour to move the eye by traction on the hook, yields, and slides away from the subjacent textures. To penetrate through the sclerotica with the sharp hook, is unnecessary.

4. The operator now takes the blunt hook in his left hand, and carrying the handle of it towards the temple, with the scissors he immediately divides, in ordinary cases, the tendon of the muscle from below upwards, and nearer the caruncula than where it is over the hook.

In this manner of operating, the muscle will most frequently be divided just where the tendinous part meets the fleshy fibres.

If the distortion is slight, the handle is to be carried over the nose, and the tendon divided nearer the cornea than where it lies over the hook, and close to its insertion.

If the distortion is great, the operator, before proceeding to use the scissors, should separate a considerable portion of the internal surface of the muscle from the sclerotica. Dr. Ammon does this by pressing the blunt hook repeatedly towards the cornea, and back again towards the caruncula. Mr. Elliot, for the same purpose, introduces a second hook, and steadies the eye by means of the one already under the tendon. The tendon being then drawn into view, the muscle is to be divided. If hypertrophied, a part of it should be cut out, which is best accomplished by passing a ligature under it with a blunt needle, tying the ligature upon the muscle, dividing the latter nearer the caruncula than where it is within the ligature, and lastly, cutting off the ligature, with a portion of the muscle which it embraces.

If, in the third step of the operation, only a portion of the tendon, and not its whole breadth, appears to be upon the blunt hook, the division with the scissors should not be immediately proceeded with; but, with another and smaller blunt hook, the operator should take up the remaining breadth of the tendon, and having divided this portion with the scissors, proceed to divide the principal portion, which he has on the first hook. It must be remarked, however, that when the tendon is raised and drawn forwards on the concavity of the blunt hook, it sometimes assumes a round and contracted appearance.

If the operator has any doubt about his having divided the whole of the muscle, he should not proceed to ascertain the position of the eye, and much less incautiously announce to the patient that the operation is finished, until he has examined with the blunt hook, and snipped across any portion which may have escaped. The mark of the semicircular insertion of the muscle, with its minute tendinous fibres, adhering to the sclerotica, will show distinctly that the muscle has been divided.

Such, then, is the operation for convergent strabismus. That for the divergent variety is generally considered rather more difficult, owing to the greater narrowness of the space between the eyelids, and the insertion of the abductor being farther from the cornea than that of the adductor. As to this, a good deal will depend on the size and prominence of the eye.

Upon the same general plan, the levator or depressor is to be divided, in cases of distortion upwards or downwards.

Unfavourable Effects of the Operation.—Some of the unfavourable effects which are apt to arise from the operation are trivial, but others are important.

1. The white cicatrice of the conjunctiva, in the situation of the wound, is of no moment.

2. The eye which has had its adductor divided, presents a greater gap between the cornea and caruncula than natural, the lids appear more open, and the eye more prominent and convex at the nasal angle. This arises from the drawing of the eye forwards by the two oblique muscles, which are no longer perfectly antagonized. If the plan of dividing part of the levator or depressor, in addition to the division of the adductor, were followed, the eye would be particularly liable to project unnaturally.

If both eyes have been operated on, both are rendered more prominent than natural, but being equally so, the circumstance attracts less notice. When only one eye projects, and the projection is great, the physiognomy is very remarkably and disagreeably affected. This affords a reason for operating on the opposite eye, if it presents the slightest degree of strabismus. If we venture to operate on a straight eye, or on one but slightly distorted, for the purpose of

equalizing the projection of the two, the tendon should be divided, close to its insertion, and with as little separation of its cellular connexions as possible, for fear of eversion.

3. Whether one eye only or both have been operated on, double vision is not an unfrequent effect. In this case, parallelism of the eyes has not been perfectly restored. If the adductor of one eye has been divided, and the eye is thereby everted in any degree, double vision occurs when the patient looks straight forward, or towards the other side. In general, this effect gradually subsides as the eye recovers the power of adduction, by the action of the inner fibres of the levator and depressor, and the re-adherence of the divided muscle to the sclerotic. The patient should be instructed to look forward at objects, and to avoid looking to a side, especially to the side which increases the double vision, by causing divergence; to the left, for instance, if the right adductor has been divided. Except where each eye, being shaded in its turn, remains straight, tying up one of them only prolongs the evil.

4. One of the most annoying consequences of the operation is extreme eversion of the eye, when the adductor has been divided. Too great a separation of the muscle, and dividing it too far from the cornea, are the causes of this effect; which is still more apt to occur, if, in addition to these causes, the motions of the eye had been previously free and the distortion slight, or if both eyes have been cut. Eversion may also be brought on, soon after the operation, by the patient's looking too much to the side.

Extreme eversion is attended by a disagreeable expression of countenance, giddiness, and such a degree of double vision as unfits the patient for pursuing any employment, and even for walking about, with both eyes open.

The moment the surgeon observes a tendency to eversion, he should caution the patient against turning his eyes much to either side, and especially against such lateral motion as produces divergence of the optic axes; and should recommend him to look always straight before him, and to exercise his eye frequently on near and small objects. If the opposite eye does not become distorted on being closed, it should be bandaged for four or five weeks. If the eversion continues after this, the abductor should be divided. If the eye is inverted after an operation for divergent strabismus, the adductor may require to be divided, should such exercise of the eyes as tends to diminish the convergence, viz. looking forward at distant objects, prove unsuccessful. The division of the antagonist muscle, in either case, will allow the eye to resume its position in the centre of the orbit, and the lateral motions will be performed by the re-adhering muscles, and by the levator and depressor.

The mutual divergence which generally exists in cases of eversion, occurring after division of the adductor, may be remedied by operating on *either* abductor. In a patient operated on by Mr. Charles W. G. Guthrie, after the adductor of the inverted eye was divided, it gradually became everted. The case was now one of mutual divergence. After some weeks, the abductor of the better eye alone was divided, which cured the eversion of the other eye, without any interference with its abductor. Mr. Guthrie's explanation or theory is not satisfactory. He mentions that from a train of reasoning he was led to select the better eye, as an operation on it alone would cure the eversion. This is not the case. The division of the other abductor would with equal certainty have removed the mutual divergence, though objectionable on account of the prominence it would have left from the division of two recti of the same eye.

Alternating eversion, on looking to either side, sometimes follows an operation for convergent strabismus. After division of the adductor of one eye, for example, it has happened that the patient, on looking at any object placed straight before the eyes, directed the axes of both correctly, so that no obliquity could be detected, and vision was single. If, however, without turning his head, he regarded any object placed a little to either side, the eye of that side was instantly everted to a very considerable extent.

Spirit of the Foreign Periodicals, &c.

M. FORGET'S LETTER TO M. ANDRAL ON MODERN HUMORISM.

THE readers of the two last Numbers of the *Medico-Chirurgical Review* have probably perused the copious extracts which we have given (in the Foreign Periscope) of the lectures recently delivered by M. Andral on the changes of the blood in various diseases. Coming from so high an authority on pathological subjects, they could not fail to attract much notice from his countrymen, who, it is well known, have been so long, and still are, deeply imbued with the doctrines of *Broussais* and his disciples.

Fortunately for the progress of practical medicine in *this* country, these doctrines have never obtained so much favour, nor influenced to the same extent the minds of the profession here as on the Continent; we say *fortunately*, because we believe that nothing has more contributed to vitiate the practical value of most French medical writings than the all-pervading spirit of what has been most absurdly called the "Physiological System." That any system should be called physiological, which confines itself to the study of the *solids* of the body, and totally excludes all consideration of the *fluids*, is surely a very strange misapplication of language; but such is the influence of dogmatism in medicine that we do not remember having ever met with any exposure of the fallacy in a single work which has, during the last ten or fifteen years, issued from the French press.

On numerous occasions, while commenting on the selections from foreign periodicals in this Journal, have we alluded to this strange error of our continental brethren; and it is therefore probable that few of our readers have allowed their minds to be deluded by it. Indeed there is something so essentially practical in the character of Englishmen, that any mere dogma, however ingenious, and however earnestly it may be insisted upon, is not likely to prevail with them for any length of time, if its precepts are not found to be consonant with the results of experience. The doctrine of the inflammatory origin of almost all diseases, as taught by the so-called physiological school, was therefore not likely to gain many adherents in this country, and in the present day the term of *gastro-enterite* is, on the whole, rarely met with in our medical literature.

If this were a topic of merely speculative interest, it would not be worth while to occupy the attention of the public with it; but it cannot be so: for the treatment of diseases will necessarily always be more or less influenced by, if not actually based upon, the opinions that are formed of their proximate nature and of their origin. Now there is no class of diseases on which it is more important to have rational ideas than that of fevers. They are in their very character, the mode of their development, the varying features they present, their wide-spreading extension, their repugnance to curative means, their often fearful devastation, and the inconstant and unsatisfactory traces of their action left behind in the dead body, the most puzzling of all the maladies to which flesh is heir to; and unfortunately it seems but too probable that they will remain so, unless indeed we can discover some other means of detection and close-prying observation than we at present possess, or discover some new chemical agents which can control and resist them. That they arise from the operation of some miasmatic — (we are aware that the meaning of the word is most ambiguous) — influence, which acts as a poison on every part of the human economy, cannot, we think, be well disputed; and we have thus been always led *à priori* to infer that their chief, if not their primary, action is on the fluids of the body. We have therefore hailed with much pleasure the efforts recently made by M. Andral and other

good observers, both in France and in this country, to discover the changes which the various fluids undergo in fevers as well as in other diseases.

The following letters will perhaps sufficiently explain themselves; we could indeed have wished that that of M. *Forget* had been more perspicuous; but as it is, we give most of its leading paragraphs literally translated.

My dear and much honoured Master,

It was a practice among the learned men of former times to address each other in familiar letters, in which they mutually suggested and discussed the leading questions of professional interest that happened to arise at the time. It is to this practice that we are indebted for the beautiful answers of *Sydenham* to *Robert Brady*, *Henry Paman*, and *William Cole*, on the medical constitutions of the seasons, and on the venereal disease, smallpox, and hysteria; and also for those valuable replies, full of medical wisdom, addressed by *Torti* to *Muratori*. No method, it seems to me, can be more favourable to the development of our ideas than this epistolary correspondence; for, while free scope is given to the expression of our thoughts, the veneration and respect due to certain men restrain us within the bounds of courtesy and gentlemanly propriety. In the arena of science, as well as in the saloons of fashionable life, is it not becoming that well-born men should always address each other with politeness (*chapeau bas*)? and moreover is it not much more easy to understand each other when thus mutually courteous, than under the double irritative influence of anger and contradiction, feelings which so often give rise to those furtive, and consequently often most unbecoming personal attacks, so common in the pages of our medical journals?

Be pleased therefore to accept with favour this address of one of your pupils, who has become in his turn a teacher of others, and one whom his position calls upon to explain every subject connected with a science that is entrusted to his teaching. A minister of this religion, whose object is the life of our fellow men and whose symbol is humanity, speaking in the face of an enlightened public to a master whom I love and venerate, my pen can surely give expression to nothing save the most cordial convictions of profound respect and admiration.

..... When we see the most able and candid observers successively sapping the fundamental principles of their predecessors; when we see a new chemical or microscopical analysis overturning the results of former enquiries; when we see authors differing from each other even as to the physical qualities, such as the colour and consistence, of the blood, is it not natural and at the same time prudent to admit with reserve the recently announced discoveries on the humoral conditions of this fluid in different classes of diseases?

..... A most important result of your researches is the nosological inference that, while genuine inflammatory diseases are characterised by an *excess* of fibrine in the blood, there is a *diminution* of this constituent in fevers. If this conclusion be found to be accurate, you have achieved a most Herculean task; for with a strong hand you have sealed the long disputed traditions of antiquity, and at the same time you have cut short the interminable discussions of modern essentialists and localisers. You have with one stroke deified Galen, and utterly overthrown Broussais.....

Certain difficulties have presented themselves to my mind in the consideration of some of the results of your researches: these I will now submit to your attention.

You state, "in the inflammations called primitive, as in pneumonia, the fibrine of the blood is in excess." What will be said to this assertion by those gentlemen, like M. *Cruveilhier* and many self-called Hippocratists, who consider every inflammation as secondary, and tell us that pneumonia is just as much secondary in its nature as variola or follicular enteritis? You will no doubt reply to this by appealing to the difference in the quantity of the fibrine of the blood in these

diseases, a difference which, in your opinion, is sufficient to demonstrate that this nosological fusion is radically wrong. Be it so; it is still a subject of dispute.

Again, you state:

"In fevers (exanthemata, typhus) the proportion of the fibrine is, in the greater number of cases at least, diminished—unless," you add, "there exists an intercurrent inflammation, which immediately raises the quantity of the fibrine." Now here, in my opinion, our real difficulties commence. And first, we may suggest, it would be very desirable that this diminution were met with in all simple cases; otherwise, advantage will be taken of the exceptions to contest the truth of the principle. Then again, if the fibrine resumes its excess, whenever a concomitant inflammation makes its appearance, may we not infer that the opposite condition of the blood—that wherein the quantity of the fibrine is below the healthy standard—must be the exception and not the general rule? For is there not a concomitant inflammation in every eruptive fever? unless indeed we are to admit that the pustules of smallpox, the *dermitis* and angina in scarlet fever, and the *dermitis* and bronchitis in measles, are not genuine inflammation. But, pray, what is a morbid action characterised, as the smallpox pustule is at its different stages, by redness, heat, swelling and suppuration, if it is not inflammation? Perhaps, indeed, it may be objected that such inflammations are of a secondary nature, or of a specific character; but pray what are we to understand by such subtle distinctions?

Now as I am fully persuaded that follicular enteritis is almost invariably present in typhus, and as this enteritis cannot be regarded otherwise than as a concomitant inflammation, we might surely expect to find that the quantity of the fibrine in the blood is increased rather than diminished in the course of the disease,—since, according to your own principles, the occurrence of inflammation during a fever is always attended with such a condition of the circulating fluid.* For I must confess to you that follicular enteritis is in my eyes an inflammation, until some one has shewn me that it is something else, and that redness, swelling, heat, ulceration and suppuration combined, are not the inherent characters of this morbid action.

Another important and fundamental question, on which, if I mistake not, you have not been sufficiently explicit, is whether the diminution of the fibrine in eruptive and typhoid fevers is initial and primitive, or consecutive and accessory, or whether it be a preceding lesion. This seems to me most essential to determine; for if the defect of the fibrine be primitive, if it be the germ of the disease, the great therapeutic indication in its treatment must be to destroy and eradicate this germ. If such be the case, must we not consider that *Sydenham* has been wrong in the principles which he has laid down for the management of febrile disorders? and that the *Brunonian* practice is greatly to be preferred to that recommended by *Broussais*?

Now though ordinary practice has proved the superiority of antiphlogistic treatment in the cure of these diseases in general, I admit that this circumstance is not in itself sufficient to overturn the alleged fundamental fact of the deficiency of the fibrine; for it must be allowed that there are not a few facts in medicine which, although we cannot explain, we must not refuse our assent to; but still it will surely be acknowledged that the circumstance cannot fail to startle us, and make us somewhat distrustful of the discoveries you have announced.

But if, on the contrary, the deficiency of the fibrine be secondary, and consecutive to some other morbid element of an earlier and more constant occurrence—as the follicular enteritis seems to me to be—then your discovery loses much of its value at least in a practical and therapeutic point of view; for my own part I should have no reluctance to admit it; all that I have pretended to demonstrate being, that in follicular enteritis the alteration of the blood, were it more constant than it really is, is a secondary and not a fundamental phenomenon of the disease. As to the condition of the fibrine more especially, I have

remarked (De l'Enterite Folliculeuse, p. 518) "that there is nothing after all surprising that a morbid state which vitiates the process of nutrition at its very source should cause a change in the *crasis* of the blood." Now as you speak of *typhoid* fevers, and as the typhoid state is at first by no means uniform, and far from being, in all cases, an initial phenomenon in follicular enteritis, it follows that even you perhaps may regard the diminution of the fibrine as only a secondary phenomenon. You see, my much honoured master, that a word on your part on these important matters is not less necessary than desirable.

But I am still more anxious to learn your opinion as to the therapeutic indications to be derived from your humoral discoveries of the state of the blood in typhus and other fevers. Do, therefore, inform us whether the deficiency of the fibrine requires, or not, a tonic and nutritive regimen? or whether it is compatible with the lowering system which is generally adopted in the present day?

There are several other points on which I long to hear your sentiments; but these must be deferred at the present time. May I, in conclusion, solicit an answer to the following three questions?

1. Is the diminution of the fibrine of the blood the most constant element of serious (graves) fevers? is it, for example, more constant than follicular enteritis?
2. Is the diminution of the fibrine primitive? or, at least, is it anterior to the follicular enteritis?
3. Does the diminution of the fibrine involve some fundamental modifications in the treatment of the disease? and are we to prefer a tonic to an antiphlogistic regimen?—*Gazette Medicale*.

M. ANDRAL'S ANSWER.

My dear and honoured Confrere,

Your letter has warmly excited my interest, since I must suppose that the doubts, which have suggested themselves to a mind like yours as to the value of the results which my researches on the state of the blood have led me to, have occurred to many other medical men, and I thank you for giving me an opportunity of endeavouring to explain them. I shall do this the more willingly as it is to you, my dear confrere, whose character and talents I so much esteem, that my reply is addressed. I perfectly concur with you in the sentiment expressed in the commencement of your letter. You regret, and I also regret, the want of those scientific correspondences, of which our illustrious predecessors have given us many examples, and wherein they have joined in discussion on professional subjects with no little benefit to the advancement of science. I congratulate you in having recalled these recollections, and I trust that your letter and my answer may be also somewhat useful to that noble science to which we have both devoted our entire lives.

There are two parts in your letter; in the one you suggest certain objections to the method which I, in union with my excellent fellow-labourer M. *Gavarret*, have pursued to ascertain the morbid alterations of the blood; and in the other you attack some of the particular results which we have obtained. I will now reply to each of these separately.

No one in the present day disputes that, in the order of physiological as of pathological facts, the study of the fluids of the body deserves as much attention as that of the solids. The part which the alterations of the blood may have in the production of disease cannot in our time be a subject of disagreement. But there is still considerable difference of opinion as to the best method to be followed with the view of introducing some precision into the study of these alterations. Permit me therefore to converse with you a little on this subject.

As long as we content ourselves with trying to establish the reality of these

alterations by mere reasoning, whether by dwelling on the functions of the blood in health, and on the reciprocal influences of this vital fluid and of the solids on each other, or by attending to certain causes and certain symptoms of diseases, we can never arrive at any certainties of knowledge. Of late years another plan has been pursued. By modifying the blood in a variety of ways in different animals, M. *Majendie* has induced in them a certain number of morbid states more or less closely resembling those which arise spontaneously in man, and a legitimate analogy has led him to infer that in the case of mankind the starting point (*point de depart*) of several diseases is to be found in one or other of those modifications of the circulating fluid which he had artificially induced in the lower animals. But to demonstrate that such is really the case, we require to advance another step. In the place of induction, we must substitute direct experimentation; we must examine the blood in man under the influence of disease, and thus try to ascertain if it really has undergone any decided change. Now by acting in this way, we soon discover that the blood does become changed in a variety of ways; and thus, very fortunately for science, different modes of experimenting mutually concur to the establishment of the truth. For while, on the one hand, M. *Majendie*, by withdrawing a portion of the fibrine from the blood of animals, induced in them various congestions and hæmorrhages, M. *Gavarret* and I have ascertained that the blood of a scorbutic patient, whose skin was covered with large ecchymoses, had not more than a third part of its normal quantity of fibrine: and we have proved that the tendency to hæmorrhages is just in proportion to the amount of the deficiency of this element in the blood.*

You, my dear *confrere*, are not willing to admit the truth of these results without reserve. It would not become me, who have passed my life in proclaiming the necessity of *doubting* upon all occasions, to be surprised that you should hesitate to give your assent all at once. The sentiment I allude to is well expressed by Haller:—*noviter repertarum rerum neque injustum fatum est, ut serius aliquanto fidem impetrent. Prestiterit enim aliquantum in dubitationis partes declinasse, quam novas neque satis firmas undique opiniones, absque judicio aut examine, recipere.*

The method which I have followed in the study of the changes of the blood in disease is, while availing myself of all chemical discoveries, carefully to examine those alterations which occur in the composition of this fluid, and not be satisfied with merely observing the more striking physical phenomena,—such as the formation of a buffy coat, its thickness, the consistence of the coagulum, the quantity of serum—such as is usually done. Not that I at all undervalue the importance of watching these latter very attentively; they communicate most valuable information; but then this information is sometimes inexact, and more often still, it is imperfect.

I have shewn elsewhere that changes in the mere aspect and outward appearance of the blood are not uniformly attended with corresponding changes in its composition. It becomes therefore necessary to separate, by means of certain processes which are well known to physiologists, the different constituents of the blood from each other, and thus to ascertain the changes in the relative proportions of each of these constituents. To proceed in this manner seems to me to be only applying to the study of the changes of the blood the same method of

* This position can scarcely be admitted as a general or absolute principle or axiom, without at least keeping in mind at the same time the distinction between active and passive hæmorrhages. Every one knows that the blood drawn in many cases of hæmoptysis is apt to be buffy, and that this form of hæmorrhage is most frequent in persons disposed to or affected with phthisis—a disease in which, according to M. *Andral*, there is usually an excess of fibrine in the blood.
—(Rev.)

investigation that has been pursued with so much success in the examination of the solids of the body. Long ago *Silvius de la Boe* very justly remarked that anatomy was a sort of chemistry, and chemistry in its turn was a sort of anatomy; "for," said the illustrious Hollander, "in both studies our object is to separate and reduce to their elements compound bodies, the blood, for example, to its principles, and any organ to the tissues which compose it." This is quite true; we must analyse the solids by anatomical and the fluids by chemical examination. The first of these studies is far advanced, but the latter is still very imperfect. It seems to me that in the present day we are nearly about the same stage in our progress to the knowledge of the humoral changes that *Hippocrates* was in reference to the changes of the solids: in his works he points out as possible, rather than authoritatively enunciates, the existence of diseases in the form or the relations of the solids. Now this is nearly our condition in reference to the blood. We have stopped with the observation of certain modifications of its external aspect, as the old Coan did with the description of some external phenomena of the solids.

..... It will not be suspected that I wish to return to the fanciful doctrines of *Paracelsus* or of *Boerhaave*; I do not wish to see medicine exclusively tributary to chemistry more than to anatomy: the aid of both sciences contemporaneously is necessary to advance its real progress.

In some cases the material element of disease exists exclusively in the blood; in others, in the solids; and in a third set it is present in both at the same time. For example, I, for my part, am of opinion that pneumonia cannot exist without an increase in the quantity of the fibrine of the blood, as well as without some of those morbid alterations of structure which characterise one or other of the three stages of the disease; and, if we may be permitted to judge of the importance of any phenomenon by its constancy, not a little value will be attached to the change in the proportion of the fibrine in the present instance; for out of 76 analyses made by me of the blood from pneumonic patients, there was not one in which an excess of the fibrine was not detected.

But you say, how can we trust to the results of examination of the fluids, when we find them stated so discordantly by different writers? Observe, my dear *confrere*, that the same reproach may be made to nearly every branch of science. Some have denied the utility of morbid anatomy, because it also has its contradictory facts, or its discrepant interpretations of the same phenomena. The value of medicine itself has been questioned, because it is so fluctuating and variable. But in spite of the difficulty of collecting accurate facts, and of interpreting them aright, we may be assured that every science is progressively advancing, however slow and unsteady the steps may be; and that, in proportion as it follows the necessary law of its development, the errors which retarded it in its course, are successively recognised and dissipated, while the truths which it has discovered become every day more manifest and clear.

Organic chemistry is still an infant science; it would be unfair, therefore, to distrust its actual and positive results, because they have almost nothing analogous with those which were formerly obtained, when physicians knew of no other method of analysing the blood, except by macerating, fermenting, and distilling it in a variety of ways.

It moreover seems to me, my dear sir, that you have exaggerated to yourself the number and the importance of the contradictory statements in modern works on the blood. In this part of your letter you cite some names, and you seem disposed to predict that, one of these days, I shall be setting myself to replace *M. Denys*, *Lecanu*, and *Mandl* in the very rank from which I have tried to displace them. There is surely some mistake here; for I have the very highest opinion of the value of the researches of these gentlemen. In many respects, I have taken their researches as the starting point for my own; and the numerous experiments which *M. Gavarret* and myself have made, have fully confirmed the

accuracy of many of the details recorded in the work of M. *Lecanu*, and have not contradicted one of his general principles. He has not studied the fibrine apart and separated from the other elements of the blood, whereas on the contrary, we have always done so; but this is only a progressive step, and cannot be considered as a contradiction.

Again, in reference to M. *Denys*, whose interesting researches on the blood have given him a high rank among scientific men, I may say that there is no discordancy between his views and mine; only we have not been working in the same field. One of the leading ideas in M. *Denys*' work is to prove that albumen and fibrine are identically of the same nature; now I do not deny the identity; for some of the most distinguished chemists of the present day admit it, and M. *Liebig* has recently confirmed their views.

But whatever may be the ultimate opinion of chemists on this subject, it will remain no less true that, by stirring or switching fresh-drawn blood we can separate a particular element or constituent, which, although it may be essentially of the same nature as that which remains in solution or suspension in the remaining fluid, must in a physiological and medical point of view at least be very carefully distinguished.

This element, which we know by the name of fibrine, is specific in its functions as well as in its character; and the increase or diminution of its quantity present in the blood characterises in a very remarkable manner certain classes of diseases. I have therefore nothing to find fault with in the work of M. *Denys*; it is to be considered in one point of view, and mine in another. It is thus, that in the science of general anatomy physiologists have endeavoured to prove that all the tissues of the body, with the exception of the muscular and the nervous, are only simple modifications of the cellular substance, to the state of which they may, by particular processes, be reduced. But it still remains no less true that this idea, however correct it may be in the eyes of the mere anatomist, will not satisfy the physiologist and the physician. In their eyes, the fibrous tissue, the serous tissue, and the mucous tissue, although all reducible to the state of cellular substance, are distinct and separate tissues, because each of them has a secondary structure which is peculiar to it, and which adapts it for the performance of its specific functions.

I come now to the second part of your letter, in which you ask of me explanations of certain difficulties, and state certain objections to the practical value that is to be attached to the changes which the blood may exhibit in typhus fever.

I have said, and I repeat here, that those diseases, which have been long known by the name *Phlegmasiæ*, are distinctly separate from those which are usually called *Pyrexia*, and that they are distinguishable from each other by the different conditions of the blood that may be discovered on an analytic examination of this fluid.

In the acute *Phlegmasiæ* the fibrine of the blood is uniformly increased in quantity; nothing is more common than to find it double or triple its normal proportion. This increase of the fibrine we have ascertained to be present from the very commencement of the inflammatory attack. I am not yet in possession of any facts to shew that this augmentation takes place before the local morbid process is developed in some structure or another; on the contrary, in several cases where I have had the opportunity of examining the blood of a patient on the day before the attack, as well as on the day on which it took place, M. *Gavarret* and myself have assured ourselves that in the former case there was no increase in the quantity of the fibrine.*

* This announcement should be received with considerable reservation. For our own part, we are rather inclined to believe that the very contrary is the case.

In the *Pyrexie*, or proper fevers, the proportion of the fibrine in the blood is found to be either not affected at all, or it is less than in health; but it is never augmented—an important distinction between this class of diseases and the genuine *Phlegmasie*. When, indeed, the fever is not primary, but only the symptom or consequence of the inflammatory action, then the condition of the blood is regulated by the phlegmasia, and exhibits the lesion which is proper to it. We must here observe that a fever may be attended with two sorts of inflammation: 1. There may be an inflammation which has its origin or starting point in the common cause of the fever itself; as for example the cutaneous affection of the exanthemata; in this case the local lesion is connected with a cause that is more general. The blood remains the same as before the cutaneous inflammation was developed, and the local disease does not affect its constitution; hence the proportion of its fibrine is not increased.* 2. Things are, however, very different in those cases of fever in which the inflammation exists as a complication, such as pneumonia, bronchitis, &c.; for then the blood exhibits the characters that are proper to the phlegmasie, and the proportion of the fibrine is therefore found to be higher than in health.

Of 52 bleedings practised on 21 patients affected with typhoid fever, in one case only was the proportion of the fibrine of the blood found to be increased; and in that case there was a distinct pneumonia present: in all the other cases the proportion of this element was either normal or it was below the natural standard.

The highest proportion was $3\frac{1}{2}$; and the lowest was 0.9;—the least quantity of fibrine which we have ever met with in any disease. As might be expected, this notable diminution of the fibrine is observed in the *adynamic* forms of the fever; the prostration of the vital powers being usually proportionate to the amount of diminution. During convalescence the quantity of the fibrine is found gradually to rise.

So much for the changes of the fibrine in the *Phlegmasie* and in the *Pyrexie*; let us now see how another constituent of the blood, the globules, are affected in these two classes of disease. As a general remark, we may state that the proportion of the globules is usually lower than in health, in the first, and higher than in health in the second class, at least during the early stages of the diseases. In estimating the proportion of this element of the blood in any case, it is most necessary to have our attention directed to the influence of the treatment and regimen which have been followed; for a single bleeding and low diet during even a day or two will be found to have a marked influence in lowering the proportion of the red globules.

As a general remark, it may be asserted that the proportion of the red globules is above the normal standard (127 in 1000 parts of blood) in *most*, but not in *all*, cases of fever at the commencement of the disease, and before the use of any medical or dietetic means. The increase of the red globules in the *Pyrexie* is, however, neither so uniform nor so well-marked as the increase of the fibrine is in the *Phlegmasie*. In measles and in scarlatina I have found the proportion of the globules as high as 160 or 170.

There is a multitude of other topics which I should most willingly discuss

For several days, and sometimes weeks, before the *explosion* of an active phlegmasie, there are almost always certain precursory or prodromic symptoms, which emphatically indicate a plethoric state of the system, and an excess of over-rich blood in the vessels.—*Rev.*

* This points out a most important distinction between the morbid action in the genuine phlegmasie and that in the inflammatory affections of the exanthemata. The remedial inferences from this position are too obvious to require any illustration.—*Rev.*

with you, my dear confrere, but which the limits of a letter utterly preclude. That the question of the changes of the blood in disease is environed with numerous difficulties, is but too certain; but, if examined with due patience and research, we have reason to hope that its study will confer important service on practical medicine.—*Gazette Medicale.*

M. ANDRAL ON THE CHANGES OF THE BLOOD IN HÆMORRHAGES.

The cause of certain hæmorrhages is to be found in a diminution of the normal proportion of the fibrine in the blood. This diminution may be either absolute, or only relative: thus 1, in some cases the fibrine alone is diminished, while the red globules of the blood remain in their normal proportion; and 2, the proportion of the fibrine is unaffected, but that of the globules is higher than in health. The former of these two conditions constitutes the *absolute*, and the latter the *relative* diminution of the element.

In a third set of cases the proportion of the fibrine seems to be diminished, while that of the globules is increased.

Now in every one of these three categories, the normal relative proportion between the two elements, the fibrine and the globules, is disturbed. The alteration may be either spontaneous, or it may be produced by sanguineous and other evacuations. In order that the proportion of the fibrine be diminished by the former, they must be carried to a considerable extent; their first and most marked effect being on the red globules, the proportion of which is very speedily diminished by any losses of blood. This diminution establishes a marked distinction between the hæmorrhagiæ and the phlegmasiæ, in the latter of which the proportion of the fibrine is found to be uniformly increased.

In seven cases of cerebral hæmorrhage, the blood was found to have a diminution of its proportion of fibrine, and an augmentation of that of its red globules. In one of these cases, the proportion of the fibrine had fallen to 1.9, while that of the globules had risen as high as 175; a few days afterwards the symptoms were more favourable, and a second venesection was practised; the blood now drawn contained more than three parts of fibrine, and the proportion of the globules had fallen to 137—being only ten above the normal standard.

We have very little doubt, therefore, that many cases of cerebral hæmorrhage are owing to a diminution of the normal plasticity of the blood, in consequence of the diminution in the normal proportion of its fibrine.

Cerebral Congestion.—This is a morbid state which is as yet not at all well determined, and the anatomical lesions of which are by no means the same in all cases. Every symptom of the disease may be present; and yet in one case we find on dissection a highly injected state, and in another a remarkably anæmic paleness of the brain. In 15 cases of the disease, in which the blood was examined, the proportion of its fibrine was not, in a single instance, found to be increased, but in several it was certainly below the normal standard.

There is more than one point of analogy between the states of typhoid fever and of cerebral congestion; in both diseases the precursory symptoms are much alike, and in both there is usually a diminution in the quantity of the fibrine of the blood.

Albuminuria, or Morbus Brightii.—M. Andral's experiments confirm the results of Christison's and Rayer's researches, as to the diminution of the quantity of the albumen in the serum of the blood, when this element, the albumen, is present in the urine.

A Dissolved State of the Blood.—The inorganic materials of the serum are—1, an alkali, and 2, neutral salts.

Much importance is attached by some pathologists to an increase in the proportion of the alkali, as the proximate cause of many diseases. It has been asked, for example, whether the proportion of the fibrine is not very much affected by the quantity of the free alkali in the blood: some facts seem to prove it. The quantity of alkali, we have reason to believe, is considerably increased in cases of scurvy, and of malignant typhus, in which the blood is known to be much less coagulable than it is in health. A mere excess in the proportion of the water of the blood is not, as is generally imagined, the cause of its being found to be in what has been called a *dissolved state*, as is abundantly proved by the phenomena which the blood in chlorosis is known to exhibit. It is rather the absolute or the relative diminution in the proportion of its alkaline ingredients, which constitutes the state of *dissolution* or abnormal fluidity of the sanguineous fluid.

Presence of Pus in the Blood.—Purulent matter has been found in the blood in the following cases: 1, in inflammation of the parietes of the heart, and of the bloodvessels; 2, in inflammation of other organs, as in smallpox, for example; in extensive abscesses, and then the matter must penetrate by absorption, molecule by molecule; 3, it has been met with in the middle of coagula, which had been formed during life, within the heart or large bloodvessels. The pus is found in different states; it may be infiltrated into the blood, so that it is combined with this fluid, molecule with molecule, and then the blood exhibits a change in its colour; while in other cases it is deposited in the form of minute isolated drops in the midst of the blood, after death. M. Piorry, to whom we are indebted for some valuable researches on this topic, has observed on the surface and also in the substance of the buffy coat of the blood, drawn from patients labouring under pneumonia, white granulations, which he considers as particles of pus.

When purulent matter is mixed with the blood, a great change takes place in the constitution of the latter fluid; the coagulum loses its consistence, and becomes soft, friable, and reduced into small lumps; its liquid portion is a veritable ichor.

Other substances, the product of morbid action, are found, in certain cases, mixed with the blood. Thus cancerous and encephaloid matter has been frequently observed in the veins leading from and adjacent to parts which are the seat of these diseases.

The blood may also be infected by several poisons derived from the lower animals, as by that of glanders, of malignant pustule, &c. It has been found that the blood of over-driven animals, if injected into the veins of other beasts, produces serious accidents; the blood of the latter becoming soft, diffident, and having little tendency to coagulate.—*Gazette Medicale*.

M. ANDRAL'S RESEARCHES ON THE BUFFY COAT.

In one of the recent lectures, delivered last Summer at the Faculty of Medicine by this distinguished physician, we find the following statements, as to the relative frequency of the buffy coat in various diseases.

Of 12 cases of *Acute Amygdalitis*, there was a perfect buffy coat in 9, an imperfect one in 1, and none at all in 2—in 123 bleedings in cases of *Bronchitis*, the blood exhibited a perfect buff 35 times, an imperfect buff 25 times, and no appearance of it 63 times. In the cases in which the buff was perfect, there was acute capillary *Bronchitis*; in the other cases, the disease was not accompanied with fever.—*Lead Colic*: of 10 bleedings, buff was found in 3 cases only.—*Chlo-*

rosis: of 11 bleedings, a perfect buff, similar to that observed in rheumatism, was found in 7 cases; once there was an imperfect buff, and in the remaining 3 cases there was none at all. We may suspect from these facts that the existence of the buff on the surface of the blood has not always the same signification, and that different morbid conditions may give rise to this phenomenon.—*Cerebral Congestion*: of 103 cases, a perfect buffy coat was found in 14 cases only; in 12 cases there was an imperfect one, and in the remaining 77 cases there was none at all.—*Pleuritic effusion*: some of the cases were chronic and apyretic, and others were recent and accompanied with slight fever; of 27 bleedings, the blood was buffy 7 times, slightly so 9 times, and not at all so 11 times.—*Intermittent Fever*: of 32 bleedings, a buff was observed in 5 cases only.—*Typhoid Fever*: of 187 bleedings, the blood was quite free from buff in 147 cases; in 30 there was an imperfect partial buff; and in 10 cases only, and these were complicated with pneumonia or bronchitis, was there a perfect buff. Surely therefore we may infer that, in simple uncomplicated typhoid fever, the blood is destitute of a buffy coat.—*Cerebral Hemorrhage*: in 2 cases only out of 22 bleedings was the blood at all buffy.—*Hypertrophy of the Heart*: the blood was buffy in 11 cases only out of 72 bleedings.—*Albuminuria*: 6 cases; no buff found in any of them: Can we then regard the disease as nephritis?—*Pneumonia*: of 230 bleedings, a well-marked buff was observed in 215 of the cases; it was somewhat imperfect in the remaining 15.—*Acute Rheumatism*: of 134 cases, a perfect buff was found in 125; in 5 it was imperfect, and in 4 there was none at all. In one of these last cases the bleeding was practised towards the close of convalescence, when the proportion of the fibrine, which had been as high as *six*, had fallen down to *three*, nearly the normal standard.—*Chronic Rheumatism*: in 11 cases only, out of 50, was the blood found to be buffy.—*Measles*: 11 cases; no buff in any of them.—*Scarlet Fever*: 9 cases; no buff in any of them, except when there was acute nephritis co-existent.—*Pulmonary Tubercles*: 203 cases; the blood exhibited a perfect buff in 140, an imperfect one in 13, and none at all in 50 of the cases.

From the preceding data, M. Andral infers that the existence of the buffy coat does not necessarily indicate an absolute increase in the quantity of the fibrine in the blood, but only a relative increase of it in proportion to the quantity of the red globules.

When the blood contains an excess of its fibrinous element, the process of coagulation goes on more slowly than usual; thus the blood drawn from a person affected with acute rheumatism coagulates more slowly than the blood drawn from a typhoid patient. The globules are precipitated along with a small portion of the fibrine, the greater portion of this element being still in a state of solution in the upper stratum, and not coagulating until the globules have entirely subsided.

The increase of the relative proportion of the fibrine to the globules may occur in two different conditions:—1, the quantity of the globules being normal, that of the fibrine may rise from 3 or 4, the standard in health, to 10; under such circumstances the formation of the buffy coat is uniform and constant, its thickness and consistence being proportionate to the excess in the relative quantity of the fibrine. This is the case in all the genuine phlegmasiæ, in which there is a real and absolute increase of the fibrine. 2. The quantity of the fibrine may be normal, but that of the globules may be considerably reduced. Now in this case, although there is no absolute excess of the fibrine, a genuine and well-marked buffy coat, with retracted and puckered edges, may be formed on the blood, although there be no inflammatory disease present. Hence we observe this phenomenon in the blood of chlorotic girls. M. Andral has seen a perfect buff on the blood when the proportion of its globules had fallen from 127, the normal standard, to 28.

The explanation of these facts is of the greatest practical importance, and puts an end to those disputes which have taken place among medical men, who have

been surprised to find a buffy coat on the blood in chlorosis—a disease which has usually been considered as quite antipodal to the phlegmasiæ.

The mere presence of the buffy coat is by no means an indication of the existence of inflammatory action; all that it indicates is that there is an alteration in the relative quantities of the fibrine and of the red globules, by which there is an excess, either absolute or relative, of the former element.

The last circumstance that we can allude to is, that we must not, in all cases, judge of the actual quantity of the fibrine and red globules by the size of the clot; for this depends much on the force with which it has contracted during the process of coagulation. Thus we not unfrequently observe a large coagulum, when the blood is really deficient in its solid materials, in consequence of a great portion of the serum being retained in its meshes. We should therefore, in all cases, pay great attention to the consistence, as well as to the size of the coagulum.—*Gazette Medicale*.

M. VELPEAU: NEW APPLICATION TO ERYSIPELAS, WITH REMARKS ON OTHER REMEDIES.

M. *Velpeau* informs us that of late he has been using a solution of the sulphate of iron with most decided advantage, as an application to parts affected with erysipelas. According to his experience its effects are, in most cases, very rapidly useful, the inflammation usually subsiding in from 24 to 48 hours after it has been applied.

He talks of its seeming to have some specific action, and goes on to say: "we maintain that this topical remedy is the only one which, as far as we know, so quickly arrests erysipelatous phlegmasiæ." (!) Its action is strictly local and confined to the part to which it is applied; for he has often seen the erysipelas disappear in a part that was kept wetted with the solution, while the circumferential parts were more or less affected with it.

M. *Velpeau* then comments on the results which he has obtained from the use of other local remedies.

Compression.—His remarks are so pertinent in some respects, and so truthfully expose the senseless conduct of too many in our profession, that we shall give them:—

Ignorant Abuse of Remedies.—"Medical men, falling into the deplorable confusion which we have so often pointed out, have applied the remedy right or wrong, by hook or by crook (*à tort et à travers*), sometimes for one case, sometimes for another, and meeting either with success or failure as chance might happen, and of which they could give no rational account, they have, as might be expected, come to the most opposite conclusions. Thus some practitioners have applied compression to all sorts of cutaneous inflammation alike; to angioleucitis and to phlebitis, to simple erysipelas and to diffused phlegmon; whereas, the remedy, even when judiciously employed, is useful at first only in the treatment of phlegmonous erysipelas, and in some cases of angioleucitis and phlebitis. It is utterly inefficacious in arresting the progress of simple erysipelas."

It is not to be supposed that we quite assent to the truth of these remarks of M. *Velpeau*; compression has always seemed to us a very questionable remedy in any form of cutaneous inflammation, except when the disease is in a chronic or very subacute stage. It is but too true, that we can very rarely allow ourselves to be guided by the French writers as to the *treatment of diseases*: they are excellent morbid anatomists and clever operators, but their *ratio* and *methodus medendi* can seldom be imitated with advantage.

The Nitrate of Silver.—Our author is not very favourable to this remedy, which has been so much vaunted by English and American writers:—"These gentlemen seem to me to have acted very confusedly; for it is almost impossible to determine in what form of cutaneous inflammation the remedy has been found chiefly useful. I have used it in upwards of thirty cases; in some, applying the caustic to the affected surface directly, in others around its circumference; occasionally the remedy has seemed to be useful, but more frequently it has utterly failed. Sometimes, indeed, it has appeared to arrest the progress of the inflammation; but in most cases this was merely temporary, and the zone of the cicatrization did not ultimately prevent its extension. I have given a fair trial to the remedy by applying it to one limb that was affected with erysipelas, and treating another limb of the same patient in another manner; and I have found that the former was often the more tardy of cure. On the whole, therefore, I regard the nitrate of silver, 'comme un moyen inutile et à laisser de côté.'"

M. Velpeau is not more favourable to the use of the acid nitrate of mercury as a local application to erysipelatous surfaces, although it has been recommended by MM. Bielt and Casenave, and extensively employed by them at the Hospital St. Louis.

He disapproves also of blisters as a remedy for erysipelas, although they were so highly praised by the late Baron Dupuytren. He has no better opinion of spirituous and camphorated lotions; or even of the irrigation from a continued stream of cold water, a remedy which has, of late years, been recommended with such enthusiasm by some practitioners. At first the most marvellous cures were effected by this remedy of remedies; but alas! on further trial of it, in the hands of unprepossessed experimenters, it was found *wanting*. We have always reason to distrust a remedy that is announced to have such extraordinary healing powers. The pool of Bethesda itself could not work greater wonders than the continued irrigation from a stream of cold water on an erysipelatous surface, according to some reports. But the dream has passed away, and now it is discovered that the remedy is not only inefficacious, but is also, in not a few instances, absolutely prejudicial, exposing the invalids to catarrhs, rheumatism, and *milles autres accidens*.

Then again, the *unction* of *mercurial* and other ointments, a practice that has been so lauded by many of his fellow countrymen, is reported by M. Velpeau, after a pretty extensive experience of its use, to be utterly *destitute of any appreciable advantage*. It possesses no power of arresting the inflammatory action; and at best it serves only to abate somewhat of the heat and sense of burning which generally accompany erysipelatous affections.—*Journal des Connaiss. Médicales*.

Remarks.—On the local treatment of erysipelas, as indeed on most topics of practical medicine, French writers are certainly not our best advisers. They are so deficient in a knowledge of general and fundamental principles to guide them, that they seem to be tossed to and fro before they can ever decide on almost any subject appertaining to the management of disease. For example, take the present case. We believe that most British practitioners will agree with us, that topical treatment is of secondary importance only in the cure of erysipelas, unless, indeed, where the disease is obviously the result of a local irritation, such as of leech-bites, &c. The question of chief importance, at least when the disease is severe, and accompanied with constitutional disturbance, is whether we are to adopt an antiphlogistic, or a stimulating and tonic treatment internally. Much mischief has been done by laying down too absolutely and dogmatically a certain line of practice, to be followed in all cases of the disease without distinction. Now this is a very serious practical error. One set of cases will be found to require depletion and a lowering regimen; while another set of cases will be best treated with the administration of opium, quinine, beef-tea, and perhaps also

wine or brandy. The wise physician will be regulated by the state of symptoms in each case, as well as by the medical constitution of the season, and the type of the prevailing diseases at the time.

With respect to the local treatment, this also will require to be modified according to the character of the constitutional symptoms, as well as by the condition of the affected parts. Perhaps the safest, as well as the most useful, application in the majority of cases will be found to be a weak spirituous lotion, used *tepid*. There cannot be a doubt that considerable risk is incurred by employing any means likely to repel the cutaneous inflammation suddenly; but this is certainly no sufficient reason to reject all topical remedies, or to be satisfied with such innocuous substances as flour, chalk, carded wool, &c. The composition of the lotion may be advantageously varied according to existing circumstances, by the addition, for example, of varying proportions of the liquor plumbi, liquor ammoniac acetatis, acidum hydrocyanicum, &c. The addition of an ounce or two of spirit of rosemary to eight or ten ounces of camphor mixture will, for a large proportion of cases, make an exceedingly good application—to be used *tepid*. By covering the parts with a piece of oiled skin, they are kept uniformly moist, without being apt to become too much chilled.

As to M. *Velpeau's* opinion, that a solution of the sulphate of iron has any specific effect on erysipelatous inflammation, we need scarcely say that it is quite fanciful.

A solution of sulphate of zinc or of any mild, astringent, would answer quite as well; and moreover have the advantage of not staining the linen of the patient or of his bed.

What must surprise the reader is, that an experienced surgeon like M. *Velpeau* should have such vague notions of therapeutic principles as to write a lengthened paper for the purpose of announcing to the public the discovery of a *nouveau topique* for the treatment of erysipelas. But such is the character of too many of the French school. Excellent anatomists and pathologists they are; but in practical medicine, or, in other words, in the treatment of diseases, they seem to be woefully deficient.—*Rev.*

HINTS FOR THE ADMINISTRATION OF IODINE.

Dr. *Mojsisovitz*, of Vienna, has contributed an elaborate paper to the *Medicinische Jahrbucher*, on the administration of iodine and its various preparations, in which he has pointed out certain precautions, which are probably not generally known, and the ignorance of which may account for the unsatisfactory results so often derived from their use.

As the feculent matters decompose the preparations of iodine, we find this substance in the state of ioduret of starch, in the stools of persons who eat bread, potatoes, rice, gruel, and vegetables, while taking the medicine. It is therefore necessary to interdict the use of every sort of food containing fecula to patients to whom iodine is given. It is probably owing to a decomposition of this kind having taken place, that we are to explain the inert effects of those enormous doses of the medicine which have been exhibited by some physicians, as Dr. *Elliotson*, Dr. *Buchanan*, of Glasgow, and Professor *Forget*, of Strasbourg. It is rather a curious circumstance that these gentlemen should not have detected traces of the ioduret of starch in the feculent matters of their patients, because Dr. M. informs us that he has never failed to discover it in the stools of such as eat farinaceous substances, while they were taking the medicine.

According to the experience of our author, the use of saline baths greatly promotes the action of iodine on the system. He has also reason to believe that the activity of its operation is a good deal influenced by the condition of the weather

at the time. When the air is clear and dry, it seemed to have most effect, and more especially when there was a tendency to inflammatory complaints; whereas, on the other hand, its action seemed to be almost null during the endemic prevalence of smallpox, puerperal fever, and diarrhoea.

The crises, which iodine has a tendency to provoke, are salivation, and a cutaneous eruption like scarlatina or miliaria; the secretion of the urine is usually the more abundant in proportion as the diet of the patient is kept low and restricted.

Dr. M. prefers the hydriodate of potash, and the proto and deuto-iodurets of mercury, to either pure iodine or to any other of its preparations. He regards the tincture of iodine as one of the very worst formulæ that can be used; it is more likely, he says, to cause a wasting of the testicles or mammæ, hæmoptysis, palpitations of the heart, &c. than any of its salts.

The dose of the hydriodate which he recommends for adults is about fifteen grains dissolved in distilled water, in the course of the day.

If there be any open ulcers, they should be kept wetted with a solution of the hydriodate; but if the local affection be a tumor, then he recommends that it should be well rubbed with an ointment composed of 2 parts of the proto-ioduret of mercury and 24 of lard.

The diseases in which Dr. M. has used iodine with advantage are œzema, ulceration of the tongue, palate, &c., various forms of obstinate cutaneous disease and of secondary syphilis, white-swelling and other maladies of the joints, periostitis, tumefaction of the lymphatic glands, scrofulous induration of the subcutaneous cellular tissue, and many of the other kinds of strumous disease.

ON MORAL THERAPEUTICS.

M. Reveillé-Parise is, we believe, well known in Paris as an accomplished and highly literary physician. He is one of the Secretaries of the Royal Academy, and we have observed that, on more than one occasion, he has been solicited to pronounce the funeral *éloge* over some distinguished son of science.

He has recently published, in one of the French periodicals, an elegant Essay on Moral Therapeutics, or the influence which the mind and passions exercise in the production and cure of various diseases. It is certainly a good subject for a medical theme, affording ample scope alike for the observations of the practical physician and the reflections of the thoughtful scholar. It was the remark of Napoleon that, in war, the moral are to the physical means as three to one—so highly did that consummate general rate the influence of mere mind on the issue of any great military enterprise. Now the same will often be found to hold good in the more peaceful operations of the healing art. It is by studying the mind, the feelings, and passions of his patients with more than usual tenderness and sagacity, that one physician so often outstrips another in the extent and success of practice. We believe that the want of such a study is apt to be a besetting sin of those medical men more especially who have been long occupied with hospital practice. *M. Parise* very pertinently remarks on this subject, that "patients in these institutions are almost quite unknown to the physician and the physician to the patients; when they are once discharged, they are completely forgotten; there is no unbosoming of the heart either attempted on the one side, or encouraged on the other. The patient suffers, or is cured, dies or leaves the hospital, bearing within his own breast the arrow that has wounded his feelings, and which has been the cause of the disturbed equilibrium of his bodily functions."

There cannot be a doubt but that psychological causes of disease are too apt to be entirely overlooked in the present day, and that physicians, in their minute examination of all the physical symptoms of a malady, often overlook the influence of mental emotions on its development, its progress, and its termination.

"If a patient dies," says M. P., "we open his body, rummage among the viscera, and scrutinize most narrowly all the organs and tissues, in the hope of discovering lesions of some one sort or another; there is not a small vessel, membrane, cavity, or follicle which is not attentively examined; the colour, the weight, the thickness, the volume, the alteration, nothing escapes the eyes of the studious anatomist. He handles, touches, smells, and looks at everything; then he draws his conclusions one way or the other. One thing only escapes his attention; this is, that he is looking at merely organic effects, forgetting all the while that he must mount higher up to discover their causes. These organic alterations are observed, perhaps, in the body of a person who has suffered deeply from mental distress and anxiety; these have been the energetic cause of his decay; but they cannot be studied in the laboratory or in the amphitheatre."

.... "Many physicians of extensive experience are destitute of the ability of searching out and understanding the moral causes of disease; they cannot read the book of the heart; and yet it is in this book that are inscribed, day by day and hour by hour, all the griefs, and all the miseries, and all the vanities, and all the fears, and all the joys, and all the hopes of man, and in which will be found the most active and incessant principle of that frightful series of organic changes which constitute pathology."

This is quite true; whenever the equilibrium of our moral nature is long or very seriously disturbed, we may rest assured that that of the animal functions will suffer.

Many a disease is the *contre-coup*, so to speak, of a strong moral emotion; the mischief may not be apparent at the time, but its germ will be nevertheless inevitably laid.

"An aneurism of the heart, an engorgement of the liver, a scirrhus of the pylorus, an effusion on the brain, or a softening of some point of its substance, typhoid fever, and the majority of what are called nervous diseases—proceed more or less directly from some, perhaps forgotten, grief, but which, *velut spina in corde*, to use the words of Hippocrates, has gradually destroyed the springs of the living economy. Can we doubt but that it was concentrated chagrin that was the vulture which preyed upon the vitals of Napoleon on the rock of St. Helena?"

It is, indeed, often very difficult to trace distinctly the relation between the cause and the effect, except, perhaps, in our own individual cases, or in those of our immediate friends. But where is the medical man that could not tell many a story of the workings of the mind in unhinging the machinery of the body? His own personal experience probably might furnish him with many such a lesson.

And perhaps our author does not much exaggerate the influence of mental causes when he says, that "deep and protracted distress of mind is the *point de depart* of the greater number of organic diseases.* The learned *Meringham* has very justly observed: *vix ullus reperitur morbus, cui non aliquod animi pathema, vel ansam, vel incrementum, vel remedium dederit*—an axiom as true as it is pregnant with practical results."

1. The organ which is most apt to be affected by mental and moral causes is assuredly the *brain*. We cannot, indeed, point out the connection between the mind and the body, nor explain how they should act and re-act on each other; yet the fact is obvious, every hour that we live. It may puzzle, indeed, the philosopher to understand how it happens that an idea, an entity that is altogether metaphysical, invisible, intangible, without extension or form, or weight, should

* *John Hunter* attributed the disease of the heart, of which he ultimately died after many years' suffering, to the fear of having caught the hydrophobic virus, while dissecting the body of a patient who had died of rabies.

nevertheless act with such force on the body as to prostrate and destroy the stoutest frame. Yet so it is. Take the case of a man who learns that 2000 miles off a vessel which holds all his fortune is wrecked, or that an only child has died : nothing touches him, nothing directly affects his body, but the iron has entered his soul ; and soon, nay almost immediately, are the effects of the mental anguish visible in his outward constitution. He experiences a violent, electric-like commotion that shakes every organ of his body ; he trembles all over, and feels dizzy in his head ; a fixed, deep-seated pain is felt there, that robs him of sleep and chases all his appetite away ; and if nothing is done to relieve him, inflammation of the membranes of the brain, or encephaloid congestion, or apoplexy, or palsy, or softening of the brain, or some other fatal mischief, is more or less quickly induced.

2. The *stomach* is the organ, after the brain, most apt to suffer from mental disquietude. The first effect of a deep grief, or even of a sudden and extreme joy, is to suspend the appetite and interrupt the digestive process. This disturbance of the gastric functions is owing to a lesion of the sensory and contractile powers of the stomach, in consequence of the irregularity of its innervation or supply of nervous influence. There seems to be in some cases even a certain amount of paralysis of the organ induced at the time. However this may be, we certainly observe not unfrequently that serious organic mischief of the stomach is apt to follow protracted grief and anxiety of mind. In other cases there is only an intense neuralgic suffering, well known under the term *gastrodynia*, and the symptoms of which so often simulate scirrhus of the pylorus.* How often do we observe that the worst cases of this complaint, which may have resisted all medical treatment, vanish in a day by the intelligence of some pleasing news, or by having recourse to agreeable change of scene. If not relieved, the atony of the stomach will in almost every case, more or less speedily, be followed by the development of organic mischief somewhere. In one case, it may be the lungs that suffer and phthisis is induced ; in another the foundation of cardiac disease is laid ; in a third the brain, and in a fourth the liver or mesenteric glands are affected. Sometimes the patient dies from complete marasmus, and yet on dissection no morbid lesion of any organ is discoverable. Such was the case with Madame *Nourrit*, the widow of the celebrated singer at Paris : an inward grief followed the melancholy death of her husband, and gradually exhausted all the vital energies of the system, and she died of marasmus.

3. "The *intestines*," says M. Parise, "seem to be less affected by mental and moral influences than the stomach. May this be owing to their being farther removed from the gastric plexus ?"

There are however, it must be confessed, not a few intestinal disorders which are very intimately connected with the depressing emotions of the mind. Not to dwell upon various affections of the liver, congestions of the spleen, constipation or irregular action of the bowels, we may allude more particularly to the common disease of *piles*. How very generally is this troublesome complaint associated with an irritable, unhappy, and peevish state of mind ? We have often predicted the existence of hæmorrhoids in patients, whom we had never seen before, from merely observing the anxious expression of their countenance.

4. Although the *heart* is not in a physiological point of view now regarded as

* One form of this most distressing malady is not unfrequent in medical and other students who are preparing for their examinations, and who allow their minds to be over-anxious about the result. As a general remark, excessive application of the mind, especially when coupled with anxiety or grief, inevitably deranges the digestive functions.—*Rev.*

the seat of the passions, as the language of poets and moralists would imply, no one can deny that it is powerfully influenced by them. Authors have differed as to how far this influence is more or less direct and immediate on the centre of the circulation. Every one knows that any violent emotion of the mind, whether this be of an exciting or of a depressing nature, is accompanied with a feeling of oppression and distress in the cardiac region, and with a greater or less degree of tumultuous or irregular action of the heart.

"Although the nerves of the heart are by no means numerous or large, it is nevertheless certain that, under the influence of any strong emotion, their action is almost immediately disturbed.* It is therefore readily conceivable that a frequent repetition of such disturbance will, in course of time, be followed by the induction of a permanent disease of the organ. There are perhaps few cases of aneurism of the heart which are not attributable to moral causes; and when we use the common expression that intense grief is a *heart-break*, the phrase is often true in a physical as well as in a moral point of view. The celebrated chemist, *Fourcroy*, is a striking example of the truth of this remark. *Napoleon* had long promised him the situation of rector of the university, but at length he bestowed it on *Fontanes*. *Fourcroy* was so deeply affected by this conduct, that all the symptoms of a heart complaint became immediately aggravated; and, while in the act of signing some public papers, he cried out *je suis mort*, and immediately expired in the arms of an attendant."

We may here observe that one of the corporeal or physical signs of prolonged distress of mind is a marked predominance of the venous over the arterial system. This is doubtless owing to a diminution of the contractility of the heart, and to the consequent *stasis* or languor of the general circulation. The French proverb—*qui voit ses veines, voit ses peines*—is therefore strictly true.

The influence of the mental emotions on the functions of the *kidney* is strikingly exemplified in almost every case of hysteria. It is not indeed easy to explain why there should be such a copious secretion of limpid urine at the decline of an hysterical paroxysm; but that such is the case, every tyro in medicine knows.†

The *mamma* is another organ, whose secretion is very decidedly affected by the state of the mind and feelings.

"The milk," says *M. Parise*, "becomes suddenly fluid and aqueous, or thickened and acid, or diminished in quantity, or even totally suppressed, returning perhaps as quickly again, by various mental causes, without the slightest appreciable change in the mammary glands themselves. These phenomena we

* Few writers on the physiology or pathology of the heart seem to us to pay sufficient attention to the intimate connexion of its functions with the state of the respiration; and yet every disturbance of the breathing is necessarily followed by some irregularity in the cardiac circulation. After a good deal of reflection, it appears to us that the influence of moral impressions on the heart can scarcely be regarded as direct and immediate, at least in the majority of instances; but rather that this influence is exerted primarily on the lungs, and only consecutively on the heart. Attend, for example, to the influence of fear: the breathing is immediately suspended, the throbbings of the heart follow. It is to *Mr. Wardrop* that the profession is especially indebted for the most lucid exposition of this and such-like phenomena: vide his ingenious work on the heart.—*Rev.*

† We have seen more than one case where diabetes mellitus seemed to have been brought on by protracted anxiety and distress of mind. In these cases the spinal marrow appeared to be a good deal at fault, as there was a very marked debility of the lower extremities present at the same time. The cases did well under the influence of animal diet and of change of scene.—*Rev.*

observe almost daily in women who are of a highly nervous and impressionable temperament. An excessive, but ill-balanced, tenderness on the part of a nurse often unfits her from suckling her child with advantage. If *Rousseau* had been acquainted with the laws of the animal economy, he would not have insisted, so urgently as he has done, that every mother, without exception, should suckle her children: his eloquent appeal has on many an occasion proved most hurtful to both."

The *cutaneous* functions are very notably affected by the emotions of the mind. How chilly becomes the skin, when grief is preying on the heart! and, on the contrary, how the whole surface glows with warmth when the soul is filled with joy! Captain *Ross*, in the narrative of his arctic voyage, alludes particularly to the circumstance of mental depression rendering the body more susceptible to the impression of cold, and mentions that several of his men became morbidly irritable: the accounts of the disastrous retreat of the French from Moscow, and of the awful shipwreck of the *Medusa* frigate, afford still more striking instances of the same state.

If our space permitted, it would be easy to extend these observations; but as our object at present is not to write a dissertation, but only to offer a few suggestions to our readers, it is unnecessary to say more than urgently to impress on all medical men the necessity of studying the psychological causes of disease.
—*Bulletin de Therapeutique.*

AUSCULTATORY TEST FOR THE ADMINISTRATION OF IRON.

Dr. *Carriere*, one of the professors of the medical school at Strasbourg, announces as the result of an extensive clinical experience, that in almost every case in which a ferruginous preparation has been found distinctly useful for the relief of nervous disorders, and more especially the Protean class of the neuralgic, "one single symptom has been found to be constant and uniform, and has always served as a touch-stone for the treatment to be employed, viz. the blowing-sound or *bruit du diable* in the large arterial trunks." "This precious sign," he continues, "has on many embarrassing occasions sufficed to establish a correct diagnosis of a case, and to lay the basis of a treatment which, although seemingly at the time empirical, has been followed with remarkable success. I had often observed the presence of gastralgia and other forms of neuralgic distress complicating the chlorotic condition, and that ferruginous medicines, if properly administered, generally relieved both one and the other affection. I concluded that these concomitant maladies were under the influence of that peculiar alteration of the blood which, in my opinion, constitutes the chlorotic state; and, as in this morbid state I have almost uniformly been able to detect the existence of the *bruit du diable* in the large arteries, I was led to assimilate with it the majority, at least, of the affections that happen to be accompanied with this auscultatory phenomenon, and consequently to employ the same remedies for the relief of all. Experience has justified the correctness of this reasoning. I have successfully treated with steel an immense number of most obstinate neuralgic, including many cases of most severe cephalalgia, which had continued for months and even years to resist every other mode of treatment; and I must acknowledge that the presence of the arterial *bruit* has often been the only existing symptom to guide me in my diagnosis, when all the usual symptoms of chlorosis—as, for example, the pallor of the complexion, the absence or deficiency of the catamenia, &c.—were wanting."

Dr. *Carriere* is quite correct in asserting, that many of the most troublesome symptoms which usually accompany genuine chlorosis are often observed in patients, in whom there is no irregularity of the uterine functions, and who do

not exhibit the well-known waxy hue of what is popularly called green sickness.

Of these concomitant symptoms perhaps none are so unmanageable as the various forms of neuralgiæ; and the profession would certainly be much indebted to any one who could point out with accuracy a successful mode of treating them, or even furnish them with a means of distinguishing those cases in which we may promise a speedy cure from those which will probably be more unyielding. This diagnostic test or touchstone may be found, in our author's opinion, in the presence or absence of the arterial *bruit*; and he strives to demonstrate that it is by the presence or absence of this auscultatory phenomenon that the physician is to be guided in the selection of his remedies. When once he detects the arterial *bruit* or murmur, he may be satisfied, says Dr. *Carriere*, that steel is the proper remedy for the existing disease, and that the use of it is required as long as the *bruit* can be heard. The following case is given in illustration.

A young girl, who had never menstruated, and who was of a delicate nervous constitution, was attacked with catalepsy, the paroxysms of which usually returned every third or fourth day. As I found a distinct *ronflement* in the carotid and subclavian arteries, I at once prescribed the use of steel remedies, at first in small doses, to be gradually increased in quantity. The attacks gradually became less frequent and less severe, and I uniformly found that the arterial murmur diminished in a corresponding degree. The use of the steel having been, contrary to my advice, suspended for some time, the paroxysms returned with greater frequency, and the *bruit du diable* recovered its former intensity.

The same circumstance was repeated three or four times subsequently, and the coincidence between the aggravation of the malady and of the arterial sound was very remarkable on every occasion, without exception. The cure is still not complete, although the disease is much mitigated; for the auscultatory phenomena continues, although with considerably less intensity. I feel confident that if the use of the steel was persevered in, the disease might be altogether subdued.

Here is another and a still more satisfactory case; it was one of *hemicrania*.

A lady, 23 years of age, had been subject from her fourteenth or fifteenth year to attacks of excessively severe hemicrania, returning at irregular intervals of time, and seemingly connected more or less with atmospheric variations. During the attacks, the patient was obliged to keep her bed, in consequence of the severity of the pain. As may be supposed, a great variety of remedial means had been tried, but hitherto with little decided success. On my first visit, I directed my attention to ascertain if any abnormal *bruit* could be detected in the subclavian or carotid arteries. At once I detected the characteristic sound, and thence determined, without delay, to administer steel. It should be stated that there was no irregularity of the catamenial function, nor any outward sign of chlorotic disease. The use of the carbonate of iron was continued for upwards of five months, at which period all tendency to return of the headaches seemed to be completely removed. The gradual subsidence of the arterial *bruit* was very remarkable during the course of the treatment.

In another case, in which the disease was an intercostal neuralgia of nearly four years' standing, the same mode of treatment was adopted, and with similar success, after all other remedial means had failed.

Perhaps the most valuable part of M. *Carriere's* paper is that which treats of that very insidious and often very intractable class of complaints, well known by the name of *gastralgie*. He says:

"The history of these most troublesome affections is certainly one of the points of pathology that is very imperfectly understood. Their nature and ætiology are still very obscure, the rationale of their symptoms is vague and imperfect, and their appropriate treatment is most uncertain and unsatisfactory.

A number of morbid affections, very different the one from the other in their

nature and their origin, are classed together, as if they were degrees only of the same morbid state. When the physician determines that it is not a case of gastritis, he at once pronounces it to be a *gastralgia*, and there his diagnosis ends. As might be anticipated, the treatment is apt to be very empirical.".....

"The essential point is to know how to discriminate the cases in which we may reasonably anticipate benefit from the use of iron. Now here, experience comes to shew that this very valuable remedy is found to succeed well only in those *gastralgiæ*, which are connected with a chlorotic condition of the system, whether the usual symptoms of chlorosis be present, or not, provided the characteristic *bruit du diable* can be detected in the large arteries.* Besides, this form of *gastralgia* has often a peculiar and characteristic physiognomy, by which it may be distinguished from the varieties of the disease. Its principal features are the continuity of its symptoms, or its alternations with some other neuralgia; the great sensibility of the epigastrium, the difficulty or impossibility of digesting food, even of the lightest kind, a sense of weight in the region of the stomach, the frequent and inodorous eructations after eating, &c.; to these symptoms is sometimes added a neuralgia of the supra-orbital nerve, or perhaps a genuine hemicrania."

Dr. *Carriere*, in alluding to the mistake frequently made by some of his countrymen, of confounding *gastralgia* with gastritis, remarks that "the latter affection is as rare as the former one is frequent." He is perfectly correct in this statement; we believe that inflammatory affections of the stomach are of very rare occurrence indeed, and may generally be discriminated with ease by the judicious physician: there is always more or less of feverish irritation, indicated by the state of the pulse, the condition of the urine, the thirst, &c. attending it; whereas, these symptoms are rarely present in genuine uncomplicated *gastralgia*. Dr. C.'s exposure of the fallacy of the Broussai-ists is so graphic that we are tempted to give it at length:—

"There are still in the present day not a few physicians who, regarding pathology through the prism of the physiological doctrine, are ever following after gastritis and gastro-enteritis—those two phantoms which, like genuine Protei, are shewing themselves under a variety of forms, and against which they fancy that they are continually waging warfare. It is not difficult to foresee what will happen, when these gentlemen have to do with the class of complaints which we are at present considering. The sensitiveness of the epigastric region, the uneasiness felt during digestion, the increase of pain after eating even the lightest and blandest food, the excitement and erethism of the nervous system which not unfrequently give rise to a quickened and even a hard state of the pulse—oh! these symptoms must necessarily indicate the existence of *gastrite*; and forthwith leeches, and poultices, and mucilaginous drinks and low diet must immediately be had recourse to. But the complaint does not yield; it rather becomes worse: the weakness is greater, and the catamenia, which may have been regular hitherto, are suppressed. These changes are attributed to some imprudence on the part of the patient—leeches are again ordered, and the starving regimen is once more enjoined. In this way, a patient, who under proper treatment might have recovered her health in a week or two, is reduced to a state of such debility and bloodlessness that it will require months before she can be

* It will be observed that Dr. *Carriere* does not use the term *chlorosis* in its ordinary acceptation. He employs it to designate a state of system which he considers to be connected with a certain special state of the blood, but which is not necessarily indicated by a waxy pallor of the countenance, or by any irregularity of the menses. This morbid state, although much more common in the female than in the male sex, is not unfrequently observed in the latter.

well. It is in such often-mistaken cases as these, that the judicious exhibition of ferruginous remedies often acts with marvellous benefit."

Dr. *Carrière* then remarks on some of the cases which he has met with in the male sex, as requiring the use of steel. One was in a young man who had recently been treated at La Charité Hospital* for typhoid fever, with repeated venesection and other debilitating measures. Two other patients, of 17 and 21 years of age, had suffered repeatedly from attacks of ague, from having resided for a length of time in a marshy unwholesome district. A fourth was in a state of great debility, induced by a protracted diarrhoea; and a fifth had very seriously injured his health by having given way to the abominable practice of masturbation. Of these *five* patients, *two* suffered from most severe cephalalgia, and *two* from gastralgia: in *all* of them, there was great muscular debility; in all, a blowing sound might be distinctly perceived in the subclavian and carotid arteries; and all were speedily cured by the use of ferruginous remedies.

Who can therefore doubt that there is a very intimate analogy between such cases in the male sex, and the much more frequent ones in the female sex, which are so generally classed under the term either of chlorotic or of hysterical disease?

"In conclusion," says our author, "it is in my opinion abundantly demonstrated, that certain gastralgiae, certain neuralgiae, and several forms of neurosis, which are not unfrequent in young persons of either sex, and which are accompanied with a *bruit du diable* in the large arteries, are so many phenomena which should be considered as the pathological expression of a *dyscrasis* of the blood, which essentially constitutes the disease of chlorosis, such as it is understood in the present day.

These various pathological expressions of the morbid condition of the blood in question may almost uniformly be removed by the judicious administration of ferruginous remedies, continued for a sufficient length of time until the system is saturated, or, in other words, until the auscultatory phenomenon, alluded to, has completely disappeared."

Dr. *Carrière* admits that he has occasionally detected the presence of the arterial *bruit* in cases, which he should not think of attributing to the same condition of the blood as that he has been treating of. For example, he has found it in two cases of dropsy induced by diseased liver: in one case of *Bright's* disease of the kidneys; and in one case also of diabetes mellitus. Moreover it is not unfrequent during the early period of pregnancy.—*Bulletin de Therapeutique*.

We cannot answer for the correctness of Dr. *Carrière's* views in reference to the arterial *bruit* being so good a semeiological test for the administration of steel medicines as he alleges it to be. We should think the idea to be more ingenious than true. Certain however it is, that steel is by far the best remedy in such cases as those alluded to by our author; and in this respect our experience entirely coincides with the results of his. Many very unmanageable cases of gastralgia and of various forms of nervous suffering will yield to it, after having resisted all other sorts of medicines.—*Rev.*

* We may remind our readers that this is M. Bouillaud's hospital, and the head quarters therefore of the new *formula* of bleeding *comp sur comp*—a discovery, the value of which the animated doctor no doubt thinks will rival that of vaccination.—*Rev.*

TREATMENT OF PHTHISIS WITH ARSENICAL CIGARETTES.

M. Trousseau is the author of the new proposal for treating pulmonary consumption with smoking cigars which have been impregnated with a minute proportion of arsenic. The worthy professor commences his observations with remarking, that however serious and unyielding any disease may have hitherto proved, we should never think of abandoning it to its own course; for it may so happen that, in the trial of various plans, some one thing or another may be found out, if not to cure, at least to relieve, the evil. "If," says he, "we have been faithful in our own practice to this principle, we have been especially so in reference to tuberculous affections of the lungs. We have tried, and then in its turn abandoned, the use of the extract of *cactus* in considerable doses, the rhatany; almost every form of tonic medicines; caustic issues, and various other kinds of drains over the seat of the disease; the sulphuret of calcium, the medicinal waters of Enghien, of Bonne, &c.—but all these and many others, without arresting the progress of the disease."

What a medley of incongruous remedies, and all for the same complaint! Well may such practice suggest the idea of the random strokes of a man to hit his enemy in the dark. Really such empirical practice is unworthy almost of an advertising quack: what then shall we say of an established professor coolly announcing it as the result of experience! The first suggestion of the arsenical cigars occurred to his mind in the following way:—

"A physician from one of the departments called upon me to say that he had discovered a method of curing pulmonary consumption, and to request me to intrust to his care some patients to try the effects of his medication under my inspection—adding, however, that he meant to make *une affaire* of his discovery. I could not accede to such a proposition, unless upon the distinct understanding that every thing should be made public. At first he assented to my wishes but afterwards drew back, confessing, however, that his remedies consisted chiefly in irritating fumigations or inhalations. Acting upon this hint, I have tried a variety of means in this way, and among others, little cigars impregnated with a minute proportion of arsenic."

He goes on to remark:—

"We have no doubt as to the curability of tubercles of the lungs. The post-mortem examination of many old subjects, exhibits most distinct traces of cicatrised caverns. As there is a great analogy between scrofula and pulmonary tubercles, we at first directed our attention chiefly to those substances which are known to be useful in promoting the healing of scrofulous ulcers. You know that if a small quantity of the Vienna powder be applied upon the surface, the skin there becomes disorganised, and that below the eschar we observe a cicatrix recently formed. But if we use a less powerful caustic, like the arsenical or chloride of antimony pomade, we may succeed equally well in effecting the cure of a scrofulous ulcer."

Then again, of all remedial means against cancer of the skin, certainly none on the whole is so trustworthy as arsenic: it seems to act in two ways; 1, as a caustic, and 2, as an alterative of the existing morbid process. Reasoning on these facts, I was led to conclude that this most potent remedy might be used with advantage in phthisis pulmonalis; and I was confirmed in this idea by finding that many of the old writers on medicine have mentioned the curative effects of certain remedies, which are known to contain some preparation of arsenic in cases of wasting of the lungs."

M. Trousseau thus describes the method of employing arsenical fumigation, which he at first adopted:

"I dissolved one or two grammes—a gramme is equivalent to nearly 15½ grains—of the arseniate of potash in 10 grammes of water; two grammes of the solu-

tion were then poured upon a sheet of paper, and when this was well wetted, it was allowed to dry. Of this prepared paper a number of small *cigarettes* were made. The patient is advised to draw in a large mouthful of the smoke, and inhale it as deeply as he can, so as to cause it to penetrate into the bronchi. The effort causes a good deal of coughing at first, but becomes gradually more and more easy. The inhalation is repeated two, three, four, or five times, according as the patient can bear it."

M. *Trousseau* administers at the same time minute doses of arsenic internally, and strongly recommends the simultaneous use of hemlock plasters—the extract spread upon diachylon plaster—on the chest. He narrates two or three cases, in which the use of these means appeared to exert the most pleasing effects in mitigating the symptoms, and in decidedly arresting the progress of phthisis in its advanced and hectic stage.

"We do not pretend," concludes our author, "to cure tubercular disease of the lungs with arsenic; all that we maintain is, that it is by means of it that we are enabled to modify the constitutional symptoms, and greatly improve the general health of the patient, so that life may not only be rendered more comfortable, but may be considerably prolonged."—*Gazette des Hôpitaux*.

Remark.—The practice of inhalation in the treatment of phthisis pulmonalis is perhaps too much neglected on the whole. The extravagant encomiums which some writers have passed upon inhaling the vapours of iodine, chlorine, &c. have no doubt contributed to this end. Without anticipating too much from the ingenious suggestion of M. *Trousseau*, we really do think that it deserves a cautious trial in conjunction, as a matter of course, with other local means, and those constitutional remedies that are calculated to give a healthy tone to the system. Arsenic is certainly one of the most powerfully alterative tonics which we know.—*Rev.*

REMARKS ON VARIOUS REMEDIES IN PHTHISIS.

We extract the following very sensible observations from a paper on the treatment of incipient consumption in the January Number of the *Gazette Medicale de Paris*.

Emetics are certainly among the most useful of all remedies in the earlier stages of the disease. The less advanced that the disease is, and the more *chronic* it is in its character, the more benefit may be expected from a judicious administration of emetics. Many a case, in which there could be little doubt but that tubercular disease of the lungs was developing itself, has done well under this practice, in conjunction with the use of other appropriate means, and all the symptoms of the impending mischief have been arrested; even in old chronic cases, where there was a marked dulness on percussion under one or both clavicles, but where there was no sign of softened tubercles or of vomicae, the most pleasing results have not unfrequently been obtained. On the contrary, where the disease is acute, or accompanied with feverish irritation, emetics have not produced the same amount of benefit; and no permanent advantage can be expected from their use, when the hectic fever is fairly established, and the strength of the patient is much reduced. The emetic should be taken by the patient early in the morning, before breakfast, and while he is still in bed, so that he may have an hour or two's repose after the fatigue of the vomiting. It may be repeated every morning, or only every second or third one or so, for several weeks. Generally the patient feels more comfortable on those days on which he has been vomited, and the cough and other symptoms are decidedly mitigated.

A full dose of ipecacuan, either alone or combined with a few grains of sulphate of zinc, is as good a formula as we can employ.

On the whole, emetics are certainly the most eminently efficacious remedies which I have seen employed in the treatment of incipient phthisis, and, in conjunction with other means, they seem to hold out the promise of, if not curing, certainly arresting the progress of the disease.

Sanguineous Evacuations.—In phthisis, unaccompanied with an inflammatory affection of the lungs or of the pleura, or with hæmoptysis, we should certainly avoid any depletions of blood. Much mischief has been done, both in former times as well as more recently, by having recourse to cuppings, leechings, and even bleeding from the arm, in almost all cases of pulmonary tubercle, as if the disease was of a genuine inflammatory nature.

Even when we are obliged to resort to sanguineous depletion, in consequence of the complication of inflammation or of hæmorrhage, we should be content with obtaining a few ounces from the upper part of the chest by means of leeches or of the cupping-glasses. Minute doses of the tartrate of antimony, combined either with the syrup of poppies or with the extract of hemlock or of henbane, should at the same time be administered for a few days, until the febrile symptoms abate and the cough becomes looser and easier.

Counter-irritants.—Much relief may often be derived from the use of these means;—from blisters when the symptoms are rather acute, and from the antimonial ointment in more chronic cases. The irritant recommended by Dr. Stokes, which is composed of acetic acid and essence of turpentine, is a most useful one, and may be often most advantageously substituted for those in more common use: it seems indeed to have some other effect than that merely of a counter-irritant.

Iodine.—Decided benefit has been obtained in not a few cases of tuberculous disease of the lungs, as well as in various other allied forms of scrofula, from the use of this potent remedy and of its preparations. Minute doses of the iodine itself, in combination with the hydriodate of potash, may be given in distilled water or in the infusion of Calumba, to which some syrup of poppies should be added. The medicine should be continued for a length of time, as its action is slow and progressive.

Tonics are necessary in almost every case of phthisis, where the disease is not acute or febrile. Steel, quinine, nourishing diet, country air, &c. are the best that can be used.

It is unnecessary to say that the exhibition of this and of every other class of medicines in phthisis requires great tact and practical experience. No one but an empiric can talk of any remedy being a cure for consumption. The following judicious remarks shew that the author is a man of judgment: there is nothing novel in them, but there is, what is much better, good sound practical sense.

“When a person, who may have a hereditary predisposition to tuberculous disease, is suffering from a troublesome cough, accompanied with expectoration, dyspnoea and feverish restlessness, the first thing that we should do is to order the application of a few leeches immediately above or below the clavicles, and small doses of the tartrate of antimony with henbane or hemlock in frequently repeated doses: a saline purgative may also be necessary. If the symptoms do not abate, we must again have recourse to the leeching, or to a small blister. When the symptoms of bronchitis have ceased, as usually happens in the course of a few days, but yet a hard dry cough remains, and the inspiratory murmur be rough and noisy, or that of expiration be louder and more prolonged than in health, the use of an emetic every second morning before breakfast will be found

to be of the greatest service: the preparations of iodine internally, and the turpentine and acetic acid liniment, may also be used with advantage, at the same time. After this treatment has been continued for some weeks, the patient will usually be found to be much relieved of all his constitutional distress; and perhaps a pallor of the countenance and a quickened state of the pulse are the chief, if not the only, symptoms that are present. Now is the proper time for the exhibition of tonics, and the use of a nutritious diet: residence in the country at the same time should be had recourse to, if possible. Under such a course of treatment the patient will often regain his strength and flesh, and perhaps all the auscultatory signs of pulmonary tubercles will cease, except a certain hardness or roughness of the respiratory sounds.

Even in the hæmorrhagic form of phthisis, the use of occasional emetics has been attended with decided benefit, when the bleeding has ceased: the efforts of vomiting do not seem to have any tendency to reproduce the hæmorrhage."—*Gazette Medicale*.

M. TROUSSEAU ON HOOPING-COUGH.

The following remarks, though desultory and unconnected, are nevertheless worthy of notice.

"Pertussis is occasionally ushered in with an almost incessant tickling cough, which leaves the patient scarcely five minutes' repose at a time. We were lately sent for by a lady, residing in the Chaussée d'Antin, who had been seized with feverishness, pain in the throat, and a cough so incessant that she had not three minutes' respite. After a few days' suffering in this way, the cough assumed a hooping character, and then there could not be any mistake as to the nature of the disease. At the same time we had under our care a young child, who was affected in a similar manner for ten or twelve days, before the regular hooping-cough was developed. It is useful therefore to keep in mind that, during some epidemics, the disease is thus ushered in; otherwise a medical man might be a good deal puzzled what to make of such a train of symptoms."

The Severity of the Disease not proportioned to the Bronchitic Disturbance.

"A number of physicians have supposed that the accumulation of mucosities in the bronchi was the cause of the fits of hooping-cough, and that the severity of these was always proportionate to the quantity of the secretion. Auscultation disproves the correctness of this idea; for very often, when the fits of coughing are both frequent and very severe, we can perceive only an indistinct and feeble mucous rale. The larger proportion of the sputa rejected during a fit of hooping-cough certainly does not proceed from the bronchi.

Again, if pertussis is to be considered, as the physiological school pretends, as a species of catarrh accompanied with convulsive paroxysms of coughing, it would surely be observed that the nervous symptoms increased in severity with the increase of the catarrhal symptoms. The physiological physicians have said, that in follicular enteritis the cerebral phenomena are owing to the sympathetic retentissement of the intestinal irritation on the encephalon. In some circumstances this may be so; but as a general position we cannot well admit that the gravity of the two sets of symptoms is at all proportionate to each other."

..... "In hooping-cough, it is generally observed that its characteristic phenomena become less distinct just in proportion as the constitutional disturbance is greater, and the pneumonic or bronchitic symptoms are more severe. Whenever a patient is in the condition of plethora, the tendency to the development of nervous disease becomes less; spasmodic symptoms are almost always observed to diminish as the tendency to fever is increased."

..... "Whenever you find the whooping in a case of pertussis rapidly subside and the feverish symptoms increase, there is reason to apprehend an attack of some phlegmasia. The disease, it should be remembered, is essentially of long duration, and *on ne rompt qu'es faisant toujours face*. As the inflammatory symptoms subside, the whooping character of the cough usually returns more severely than before."

Alluding to the case of a child, in whom pneumonia supervened while it was affected with pertussis, M. Trousseau remarks:

"Now, in auscultating our young patient, we find at the root of the left lung behind a sub-crepitant rale, and on the right side a subcrepitant and mucous rale. This infant has lobular pneumonia. The sub-crepitant rale is an indication of pulmonary catarrh, while the crepitant rale indicates pneumonia; the former is perceptible both during inspiration and expiration, but the latter is to be heard only during inspiration. In our patient we hear the subcrepitant rale over almost the entire extent of the chest, whereas the crepitant rale exists only at some points: we therefore infer the existence of lobular pneumonia."

Curative Influence of Emetics.

"To most of the children we have given one or more vomits of ipecacuanha, and in all with the effect of decidedly abridging both the frequency and the severity of the coughing fits. The vomit should be repeated every second day in most cases. We usually administer at the same time repeated doses of a mixture of equal parts of the syrups of valerian, belladonna, and opium, with a portion of ether added to it. Do not however expect to cure the disease either with this or with any other mode of treatment; all that we can hope to do is to diminish its severity."

..... "We find it recorded by several authors that vaccination usually mitigates very decidedly the severity of the paroxysms of whooping-cough. In some cases, where it has been practised soon after the appearance of the disease, this has very quickly subsided. If such be the case with vaccination, we may reasonably expect a similar result from the supervision of small-pox; and such appeared certainly to be the case in one of our patients. Such a morbid eruption is a much more efficacious revulsive than any artificial one, such as that produced by the ointment of the tartrate of antimony."—*Gazette des Hôpitaux*.

CLINICAL OBSERVATIONS ON RHEUMATISM. By M. CHOMEL.

The following statistical results are derived from the clinical wards at the Hôtel Dieu, under the care of M. Chomel. During the sessional (scolaire) year 1840-41.

During the course of the year, 31 cases of acute articular rheumatism were admitted: of these 17 occurred in men and 14 in women. One half of the cases occurred during the Summer, and the other half during the Winter months. In the majority of the cases it was extremely difficult to determine the exciting cause of the disease: seven or eight only of the patients attributed it to the influence of cold. The medium duration of the disease was about 30 days: it seemed to be rather less in Winter than in Summer.

Of the 31 cases, there was one only in which the patient had exhibited symptoms of cardiac disease (palpitations and attacks of dyspnoea) before the invasion of the rheumatic attack. In another patient, immediately after the attack, symptoms of cardiac disturbance developed themselves.

From our experience, says M. Chomel, during the last four years, during which time 86 rheumatic patients have been admitted into our wards, it follows that six out of this number had been affected with heart-complaints before the

attack upon the joints ; and that four only have had organic affections subsequently to their first suffering with rheumatism.*

It would therefore appear that the proportion of patients, in whom organic disease of the heart supervenes after acute rheumatism, is very much smaller than that indicated by M. *Bouillaud* and many other writers.

It follows also from our observations that inflammation of the investing membrane of the heart, whether of the pericardium or of the endocardium, is far from being a constant accompaniment of acute rheumatism ; for, if it were so, surely organic diseases of the heart should be much more than they really are. The knowledge of this fact ought to guard the minds of medical men against the too positive assertions that have been laid down in some recent works.

Bruit de Souffle.—In seven only of the 31 patients was this blowing sound to be perceived ; and out of the entire number of our patients since 1837, viz. 86, it was perceptible in 29 only of the cases—or in about one in every three cases.

But to ascertain still more exactly the value of this auscultatory phenomenon, and to determine how far it is so intimately associated with rheumatism, as has been alleged by many writers, we have endeavoured to find out whether it is not present in other acute diseases, in which there is no reason to suspect any complication of cardiac disturbance.

The following are the results of our observations during the past year. We have met with the *bruit de souffle*.

1. In five cases of pneumonia, three of which recovered and two proved fatal. In one of the fatal cases, a very slight thickening of the sigmoid valves was found on dissection ; and in the other, in which the blowing sound had been so strong as to make us suspect the existence of an endocarditis, not the slightest trace of morbid change in any part of the heart could be detected.

2. In three patients affected with small-pox, the *bruit* was distinctly heard : it ceased with the disease, without leaving behind any symptom of cardiac complaint.

3. In one case of fatal typhoid fever ; on dissection no trace of lesion in any part of the heart was discoverable.

4. In two cases of bronchitis, and in several cases also of acute metritis, the blowing *bruit* accompanying the first sound of the heart was distinctly perceived.

From these observations we are warranted in the conclusion, not only that this auscultatory phenomenon is far from being constant in acute rheumatism, but also that it is not unfrequently present in other acute diseases.—*Gazette des Hôpitaux*.

TREATMENT OF ACUTE RHEUMATISM WITH LARGE DOSES OF THE NITRATE OF POTASS.

Dr. *Brocklesby* seems to have been the first to point out the curative efficacy of saltpetre in the treatment of acute articular rheumatism. In his economical and

* It must certainly be rather difficult to substantiate such an assertion in reference more especially to hospital practice ; as it is well known that the patients are almost always lost sight of after their discharge from the institution. How then can we determine with any degree of accuracy that in four instances only out of 86 cases of acute rheumatism did any cardiac disease supervene ?

In our opinion, M. *Chomel* is as much inclined to under-estimate as M. *Bouillaud* is to over-estimate the frequency of what the latter author calls the coincidence between acute rheumatism and cardiac disease : *in medio tutissimam ibis*.—*Rev.*

medical observations, published in 1764, he has explained the practice which he found to be most useful. After taking a free bleeding from the arm, when the patient is young and robust, he orders a very copious allowance of warm gruel, in which from one to two drachms of the salt have been dissolved; the patient is to take large draughts of this drink at short intervals. He has given as much as from six to ten drachms of the nitrate, dissolved in from three to six quarts of the gruel, during the course of 24 hours. This mode of treatment rarely fails in producing a great relief of all the symptoms in two or three days; and very often a complete cure of the disease is effected, without having recourse to any other mode of treatment, within a week from commencing the treatment. The nitred diluent usually causes very profuse perspiration, and generally also acts upon the bowels; if it does not, an aperient enema should be given occasionally.

It is to be observed that Dr. *Brocklesby's* remarks are drawn from practice in military hospitals, where the patients are usually robust and healthy.

In 1772, Dr. *Macbride*, in his introduction to the theory and practice of medicine, recommended the same mode of treatment. Two years later Dr. William White (*Observations on the use of Antimonial Preparations*) makes the following remarks on the effects of large doses of saltpetre:

"The employment of this salt, after bloodletting, is very useful in the treatment of acute rheumatism; but it must be given to the extent of an ounce in the 24 hours, if the vascular irritation be considerable; small doses are of little service. In many cases of chronic rheumatism also, it is of great efficacy. Administered in the dose of from one ounce to an ounce and a half in 24 hours, it often cures the most severe cases of the disease, which may have resisted every other mode of treatment."

The use of the nitrate, notwithstanding such decided recommendations, fell into neglect, and although noticed by M. *Bosquillon* in his translation of *Cullen*, it was not till 1832 when it was again brought to notice by M. *Gendrin*. One of his internes at the Beaujon Hospital, M. *Aran*, has brought together the reports of a dozen of cases treated with the nitrate of potash in full doses, dissolved in copious draughts of a mild demulcent diluent, very nearly according to the directions of Dr. *Brocklesby*. The dose of the salt varied from four to eight or ten drachms in the course of the 24 hours. The average duration of the treatment seems to have been about a week. In many of the cases there were well-marked symptoms indicating disease of the heart: these symptoms usually subsided with the suffering in the joints.

The *modus operandi* of the remedy was usually as a powerful diuretic and diaphoretic: occasionally too it acted on the bowels.—*Journal des Connoissances Medico-Chirurgicales*.

Remarks.—We are generally pleased with the reproduction of any of the remedies which were much used and recommended by the sound practical physicians of the last century, as most assuredly these gentlemen were much less influenced by pathological theories in their treatment of diseases than most of the writers of modern times. That full doses of the nitrate of potash should act beneficially in acute rheumatism, we are quite prepared to expect: for it will be found that all powerfully evacuant remedies, more especially those which act on the skin and kidneys, are more or less useful in this disease. One of the most generally useful of all remedies, in a large proportion of rheumatic cases, is the *mistura guaiaci* of the London Pharmacopœia; and it is observed that it is usually most beneficial when it acts on the bowels and kidneys. The *vinum colchici*, or the Dover's powder, may often be added with much advantage to it. Moderate bloodletting, and the exhibition of calomel at bed time, with or without opium, should seldom be neglected at the same time.—*Rev.*

ON THE TREATMENT OF WORMS.

1. *Ascarides*.—Aperient medicines, although they are not to be trusted to alone for the removal of these worms, are generally necessary. Strong drastic purgatives should be avoided. Rhubarb and aloes, with the addition of a small portion of some mercurial, may be given over night, and in the morning a draught of Epsom salts in a bitter infusion will be found to add to their efficacy. Instead of administering much medicine by the mouth, it is better to use enemata frequently. Common table salt, the muriate of soda, dissolved in chamomile or wormwood tea, to which some oil may be added, will often succeed admirably well. The sulphuret of potash may be used in the same way, or aloes dissolved in milk.

The tincture of the muriate of iron in water has been highly recommended by some writers; by others lime water is much esteemed.

M. *Martinet* advises that three different kinds of enemata should be administered, one after the other, at short intervals: first a common purgative injection to evacuate the bowels; then one to kill the worms and bring them away, consisting of common salt, or of vinegar with some bitter infusion; and lastly, an emollient oily one to soothe the irritation of the gut.

Bremser recommends an enema, consisting of the infusions of absinth, tansy, orange peel, and valerian, with a small portion of the empyreumatic oil of harts-horn, immediately after each alvine evacuation, as it is more likely then to be retained, and as it will also come more immediately in contact with the animalcule.

Injections either of cold water, or of a few ounces of olive oil, to which several drops of laudanum or of hydrocyanic acid may be added, will generally relieve the irritation of the anus, which is often so distressing a symptom.

By some of these means, the worms may almost always be dislodged and removed. To prevent their reproduction, it is necessary that the use of a tonic aperient be continued for a considerable time. Pills, containing rhubarb, aloes, myrrh, and sulphate of iron, will answer very well in a number of cases.

A powder, consisting of rhubarb, worm seed (*semina santonici*) and carbonate of soda, is well suited for children. The patient should be recommended to use a good deal of salt with his food; and vegetables and fruit should on the whole be abstained from.

2. *Lumbrici*.—Stronger purgatives are necessary for the expulsion of these worms than of the *ascarides*. A powder, containing calomel, jalap, and rhubarb, is perhaps as good a formula as can be adopted. *Rosenstein* has recommended a combination of sulphate of iron, jalap, and wormseed powder and sugar, to be taken for three mornings successively; while *Stork's* favourite remedy was an electuary composed of sal polychrest, jalap, and valerian, a drachm of each, and four ounces of oxymel of squills—in doses of half an ounce three or four times a day to an adult.

Bremser tells us that he derived great benefit from a combination of wormseed, tansy, valerian, jalap, and sulphate of potash—an excellent formula, if the compound was not so nauseous. When the worms are expelled, he recommends a mixture containing tincture of aloes, steel, and elixir of vitriol.

The cowage (*dolichos pruriens*), granulated tin, and steel filings have occasionally been used, made into an electuary with syrup or treacle, with advantage; but of late years they have generally been superseded by other remedies. A combination of carbonate of iron, powdered wormseed, and scammony makes a good formula. Equal parts of infusion of senna and of the infusion of the spigelia, or of the decoction of pomegranate bark, may be taken at the same time with benefit.

We have not yet alluded to two of the most powerful anthelmintic purgatives—viz. croton oil, and the spirit of turpentine. The former has the great ad-

vantage of being so easily administered; even the external application of a few drops, rubbed on the abdomen, will occasionally succeed in dislodging the worms. The turpentine may be either given by the mouth or administered in an enema; the oil may be suspended by means of gum arabic in milk or gruel.

Common table salt has been highly recommended against lumbrici by the late celebrated physician, Dr. Rusk of Philadelphia, in doses of half a drachm every morning before breakfast for a length of time. A glassful of sea water may be usefully substituted.

The tolerably free use of somewhat salted meat for food, at the same time avoiding fruits and vegetables, has often been observed to be attended with much benefit to persons subject to worms.

Friction of the abdomen with some liniment containing turpentine, ox-gall, assanth, aloes, and such like medicines, or the application of a plaster containing assafetida, galbanum, camphor, rue, &c. are certainly sometimes useful.

3. *Tenia*.—The spirit of turpentine has of late years almost quite superseded every other remedy for the expulsion of this kind of intestinal worm. In administering it, the physician must be especially attentive to secure its purgative action; otherwise the urinary organs are apt to suffer from excessive irritation. For this purpose the patient should always be instructed to take a full dose of castor oil, or of some other certain aperient, in the course of an hour or two after the turpentine has been swallowed, if the latter has not already acted on the bowels.

It is well known to cause in many instances vertigo and great disturbance of the head, amounting sometimes to a state of complete intoxication; but these symptoms will gradually subside. The essence of lemons is perhaps the best disguiser of the unpleasant taste of terebinthinate medicines. Chewing a piece of orange peel immediately afterwards will often relieve the nausea.

The pomegranate bark, either in the form of powder or of a strong decoction, has been successfully used by several medical men. One or two scruples of the powder in a wine-glassful of cold water is to be repeated every hour to the fourth, fifth, or sixth dose. If the worm is not expelled, the same medication is to be repeated on the following day. The decoction is the form in which it is generally used by the French physicians: it is prepared by boiling two ounces of the bark in a pint of water; a wine glassful is to be taken every half hour or so, till half the pint is swallowed. It is well to follow it up with a purgative, in case it does not act on the bowels.

Most of the remedies, which we have alluded to as useful against *lumbrici*, have been employed by different practitioners against tape-worms.

A combination of tin filings, fern root, wormseed, scammony, gamboge, and sal polychrest is a favourite remedy in some parts of Germany. Should the worm be partially extruded from the gut after a stool, the patient should continue to sit over the night-table, and swallow repeated doses of a solution of Epsom salts, or of any quickly-acting aperient, to induce further evacuations until the entire worm be expelled. Any attempts to pull it out with the fingers, or by affixing a portion of thread or tape to it, will almost always fail.

A course of vegetable and metallic tonics, with the addition of gentle aperients, should be continued for a length of time: the best are pills composed of aloes, rhubarb, and steel, along with some vegetable bitter infusion to which alkaline or neutral salts are added.

ON EPIDEMIC MENINGITIS.

Our readers, says the *Gazette Medicale*, must have heard of the epidemic of

meningitis which, during the last few months, has prevailed at Versailles, Rochfort, Metz, and more recently at Strasbourg.

Dr. *Wunschendorff* has published a narrative of the disease, as it was observed in the latter town. He tells us that, after having reigned exclusively among the soldiers of the garrison, the inhabitants of the town became affected. The first case observed at the clinique occurred on the 14th of January; then, after an interval of six weeks, new cases presented themselves successively up to the 1st of June, since which date no fresh case has been seen. During this period of time, four months and a half, 40 patients were admitted with the disease; and of this number 21 died.

The exciting *causes* of the epidemic remain quite inscrutable. In some cases, the disease appeared to spread by contagion; but the fact is not clearly made out.

The *necroscopic* appearances were those indicating intense inflammation, which frequently developed itself with a truly frightful rapidity; extensive injection of the pia mater, effusion of gelatiniform and somewhat purulent matter on the surface not only of the encephalon, but of the greater part of the spinal marrow. There were also, in almost all the cases, traces of a rudimentary or nascent inflammation of the villi and follicular glands of the intestines. Dr. *Wunschendorff* is therefore inclined to regard the disease of a *franchement inflammatoire* character. (If by this term the writer wishes to imply that the disease was a simple uncomplicated inflammation of the membranes of the brain, we have no doubt, *à priori*, that he is in error, and that he has allowed himself to be misled by the doctrines of the Broussaian school. In our opinion, every genuinely epidemic disease is necessarily dependent upon some atmospheric miasm, which induces a certain change in the circulating fluids, either by being directly introduced and so blended with them, or by some secret influence on the nervous system re-acting on the whole economy, and simultaneously affecting all the fluids and solids. This seems to us to be the only rational view that we can take of the development and diffusion of febrile diseases, which are not obviously the result of an antecedent local irritation, or of the suppression of an accustomed secretion, as of the perspiration or of the milk for example. The practical value of this view of epidemic disorders is, that the physician is thereby led to a more safe and judicious mode of treating them than that inculcated by *Broussais* and his disciples. The fever has a certain course to run before the system is able to throw off the morbid cause; and hence all attempts to strangle it by violent remedies is unscientific and dangerous.—*Rev.*)

The *symptoms* of this epidemic meningitis were usually sudden headache, vertigo, and vomiting; then delirium, convulsions, and tetanic spasms of the jaw and trunk; and lastly coma, paralysis of the sphincter and other parts of the body, and the usual phenomena of malignant typhus. The bowels were in most cases constipated at first, and subsequently became relaxed. The pulse was often remarkably slow at the commencement and in the early stage of the disease. In the majority of cases an herpetic eruption about the lips made its appearance.

According to the predominance of certain symptoms, Dr. *Wunschendorff* describes an inflammatory, a neuralgic, a convulsive, a delirious, and a comatose form of the disease. But he has not been able to point out a connection between these different forms and any special modifications of the necroscopic phenomena—on the contrary, the morbid lesions discovered on dissection were almost always very nearly the same.

The *course* of the disease was very irregular; in many cases it exploded with symptoms of high excitement, under which the patient sunk, or which were succeeded by torpor and various other phenomena.

The duration of the disease also varied much in different cases; in some it proved fatal in a few days, or even in a few hours, while in others it was length-

ned, after the first violence passed away, to one or several months, before terminating in death or in a slow and painful convalescence.

The *diagnosis* was occasionally difficult, the disease assuming the characters either of malignant fever, follicular enteritis, or of apoplexy.

The *prognosis* was necessarily unfavourable. One half of the patients died; but this mortality is common to this epidemic with sporadic meningitis, which usually proves fatal in two of every three cases. In the civil hospital at Strasbourg, as we have already stated, 21 patients died out of 40 that were admitted; and in the military hospital the mortality was still greater—104 out of 176. The average age of the patients was from 18 to 25 years.

The *treatment* followed was actively antiphlogistic. The patients were usually bled several times, and at short intervals—varying according to the severity of the symptoms—during the early stage. Leeches were applied in great numbers to the temples and behind the ears, and cupping also along the spine was practised freely. Cold lotions were applied to the head, and in some cases mercurial ointment was smeared on the shaved scalp.

Having lost several patients, to whom calomel in large doses was administered, and as there were usually abdominal symptoms present, Professor *Forget* subsequently discontinued the use of intestinal derivatives, and trusted altogether to mild aperient enemata.

In the more advanced stage of the disease, much reliance was placed on cutaneous irritants. At this period, opium, in the form of syrup, seemed decidedly useful in mitigating the headache and delirium. All stimulant and tonic medicines were hurtful, except during the stage of convalescence.

We await anxiously the work which the Professor himself has announced to be in preparation, to learn more accurately the minute history of this very formidable epidemic.—*Gazette Medicale.*

SPONTANEOUS COMBUSTION OF THE HUMAN BODY.

The following conclusions are drawn by *M. Jacobs* from the reports of 28 cases related by different authors.

1. Spontaneous combustion occurs only in human beings, and never in the lower animals: and among the former only in the living and never in the dead body.
2. The majority of cases occurred in persons advanced in years; the youngest was 29 years old, and there were other two 50 years old; all the rest were above the latter age.
3. By far the greater number of victims were women: of the 28 cases, two only occurred in men.
4. In one case the catastrophe was preceded by a state of jaundice; and in another by the existence of an unhealthy ulcer on the head.
5. All the persons were alone at the time of the accident.
6. They had all led an inactive life.
7. They were all very fat and corpulent; with the exception of three of the women, who were thin, and of a dry habit.
8. The majority, but not all, had been addicted to drinking spirituous liquors.
9. In most of the cases, there had been a candle, or fire, or some burning body close to the spot where the accident occurred.
10. Spontaneous combustion usually proceeds with great rapidity, as in from one to six or seven hours.
11. The flame proceeding from the body was not readily extinguished with water; it was very lambent and moveable, and destroyed only such articles as were quite close to, or in immediate contact with, the burning body.

12. The room, in which the combustion had taken place, was in most of the instances filled with a dense smoke, and the walls were covered with a carbonaceous substance; the floor, the bones, and the ashes were coated with an unctuous and highly-fetid matter.

13. The trunk of the body was generally quite destroyed; the remains being only some parts of the head and of the extremities.

14. All the cases of this singular occurrence, with the exception of two, have taken place when the weather was cold, and usually during Winter, and in northern regions.—*Casper's Wechenschrift*.

ON THE TREATMENT OF DISEASES DEEMED INCURABLE. By
PROFESSOR FORGET.

Bacon, in his celebrated work *De Augm. Scient.*, uses these prophetic words:—*Neque igitur dubitabo inter desiderata reponere opus aliquod de curationibus morborum qui habentur pro insanabilibus*. We have not indeed the presumption to suggest any remedy or remedies for those diseases that are usually considered incurable: our only object is to draw the attention of medical men to a subject which well deserves their most serious reflection.

We do not propose to canvas the question what diseases are, and what are not, incurable, as this would lead us into a tedious and perhaps unsatisfactory discussion of terms; nor shall we venture at the present time to endeavour to explain how such diseases usually prove fatal to life.

In the case of such organs as are double, Nature herself sometimes supplies the deficiency caused by the destruction of one of them; we may allude, for example, to certain cases of the destruction of one kidney, or of one testicle, &c. The destruction of parts, which are not essential to life, can be viewed only as an infirmity. *Eh bien!* let us take the case of the most noble of all the viscera, the encephalon. Now it is an admitted axiom in cerebral pathology, that the destruction of those parts, which preside over certain nervous functions, causes the definitive abolition of these functions. Is this axiom true in all cases? Are there not examples of apoplexy, of softening having induced the melting down (*fonte*) of a part of the brain, and of protracted paralysis, which nevertheless have ultimately been cured? In propounding this axiom, have pathologists calculated all the resources which Nature can develop by means of nervous anastomoses, and all that may arise from following out a judicious and persevering course of medical treatment? Such fortunate results are rare, it is true; but that they do exist, cannot be disputed; and, despite the proverb, these exceptions, it must be admitted, really do invalidate the rule.

Now what is true of the destruction of organs, must, *a fortiori*, be still more so of the alteration of tissues. The greater number of organic lesions consist in the deposition of matter, which is either analogous or not to the natural tissue of the part. *Eh bien!* Nature possesses a power directly opposed to this tendency to abnormal secretions—viz. absorption: the difficulty consists in putting it into operation. Perhaps the mechanism, or *modus operandi*, of our alterative and discutient remedies only consists in the property of quickening this power of absorption.

As to the morbid states called functional or dynamic, in which there is no appreciable alteration of tissue, as we are ignorant of their essence, we have always a right to anticipate a cure of them. This remark is, we suppose, intended to apply to such diseases as tetanus and hydrophobia.

These considerations, which might be easily extended, are so many motives for encouragement to attempt the cure of some diseases that are still deemed incurable, although it must be confessed that we must not allow ourselves to be

at all sanguine about the results, and we should ever be on guard against being misled by many statements which we every day hear of marvellous cures of such and such disorders.

There lies the difficulty of practice; for the more rebellious that a disease is, the more energy is required in attempting to subdue it, and the greater is the danger of active remedies causing the supervention of fresh accidents on the original malady. To know when to do nothing is a precept but little understood by the majority of medical practitioners, who seem to imagine that there is always a possible remedy for every form of disease, whatever that may be.

But listen on this subject to some of the oracles of our profession. *Frank* expressly tells us, "when a disease is recognised to be incurable, we ought to abstain from all vain efforts to try to cure it; and this precept is especially applicable to such therapeutic means as are unpleasant or painful. The medical man who employs such is no better than an executioner; it is better that a patient should sink under his disease, than that he should die from the effects of any remedies that are employed." *Sydenham* and *Stoll* have expressed the same sentiments; and *Tissot* very justly remarks, "It is the part of a skilful physician sometimes to prescribe no medicines at all."

Pernicious Effects of powerful Remedies in Chronic Diseases.—In truth, how many paralytic patients sink under some cerebro-spinal lesions excited by stimulating remedies of the nervous system, such as strychnine for example! How many phthisical patients fall a sacrifice to a colliquative diarrhœa, aggravated by the use of pretended incisive and solvent (fundants) medicines, as alkalis, which only serve to irritate the mucous membrane of the stomach and intestines! How many dropsical patients suffer from the use of drastic purgatives, or of powerful diuretics and diaphoretics, all of which must primarily act on the alimentary canal! How many unfortunates, labouring under some organic disease of the heart, or liver, or spleen, are poisoned by the injudicious administration of digitalis, mercury, iodine, &c.! and, lastly, do we not often see the system undermined by the continued use of arsenic and other irritants in hopeless cases of cancer and other incurable disorders!

It would be easy, says *M. Forget*, to extend the catalogue of this lugubrious litany, known only to the consciences of medical men. Much evil has resulted from that perfidious maxim of Celsus, "*Melius est anceps remedium adhibere quam nullum*:" there is much sounder wisdom in that which inculcates upon us, "*primo non nocere*," and in the advice of *Stoll*, "*Nil magni facias ex merâ hypothesi*."

Some, we know, will object to these remarks which we have now made, and charge us with unnecessarily abridging the useful exertions of the physician. It is not the use, but the abuse, of remedies that we are condemning. Even in the case of hopelessly incurable diseases, much may be done by the judicious medical man in the way of soothing pain, calming mental distress, and sweetening and even prolonging life: such is one of the most holy duties of our noble profession.

When *Sydenham* said that without opium he would renounce practice altogether, he no doubt had in view the long and mournful catalogue of chronic maladies, the suffering from which may be so often mitigated by this and other analogous medicines. Let us learn then how to assuage the pains which we cannot prevent, and even when we fail in our best endeavours, let us learn how to console the sufferer.

As to the means best fitted to limit, if not arrest, the ravages of incurable diseases, they may be all deduced from an important law of pathology, which is far too little understood and acted upon; it is that many chronic maladies prove fatal by the complications which they call into action. Thus apoplexy often kills by the softening of the cerebral substance induced by the extravasated blood,

which has been acting like a foreign body; pulmonary tubercles excite a sub-acute inflammatory action in the surrounding parenchymatous tissue; aneurism of the heart and hypertrophy of the liver, by the serous and sanguineous congestions which they give rise to; and cancer, by the exhaustion of the whole system, and by the cachexia brought on from the absorption of ichorous matter into the blood.

Without, therefore, vainly persisting in attempts to withdraw the cerebral coagulum, the removal of which can only be the slow work of Nature, let us strive to combat the congestion that is induced by this fatal thorn; without trying to melt away rebellious tubercles, it is better to check and dissipate the inflammation which exists around them; without endeavouring to modify the nutrition of an hypertrophied heart or liver, diminish the quantity of blood that passes through them, and draw the irritative process outwardly, and act gently on the various emunctories of the body; and without ever dreaming of extirpating an organ like the uterus, when corroded with cancer, support the system by mild food, and keep the surface of the ulcerated parts clean with anodyne washes.

Whatever be the disease that exists, soothe and mitigate pain; for this not only exhausts the frame, but inevitably aggravates the local mischief. While we pursue with prudence and modesty our sanatory labours, it sometimes happens that kind Nature crowns with unexpected success our submission to its mysterious decrees; in combating the auxiliaries, we sometimes will triumph over the principal enemy: in several cases the apparent cure of phthisis in our own practice has been the fruit of a treatment purely lenitive, and in no manner specific; in truth, chiefly of a mild regimen.

Much may unquestionably be often done by a judicious regimen: "*Abstinentia et quiete multi magni morbi curantur* *optimum medicamentum est cibus opportune datus*," says *Celsus*; and *Jos. Frank* confirms the opinion of the Roman: "dietetic regimen constitutes at once the most certain and the most copious source of therapeutics. A great number of diseases are in truth to be cured much more surely by the judicious selection of food and drink, by change of residence, amusement of the mind, &c. than by all our arsenal of medicines;" and how substantially true are these few words of the great English physician, *Sydenham*: "It has often occurred to me that in the treatment of diseases we go on too fast, and that we should leave much more to be done by nature."—*Gazette Medicale de Strasbourg*, No. 1.

ON THE OBSCURITY OF THE SYMPTOMS OF PNEUMONIA IN OLD PEOPLE.

Professor *Cazeneuve* prefaces his remarks on this interesting subject with briefly reporting two cases in illustration.

Case 1.—Madame B., 82 years of age, and of a frail constitution, but whose health had been almost uniformly good, was, after exposure to a draught of cold air, rather suddenly seized with a shivering fit, followed by general heat. The feverish state continued next day, and as there was a marked exacerbation towards the afternoon, the physician who was called in considered the case to be one of ague, especially as this disease was prevalent at the time in the neighbourhood. Next day Dr. *Cazeneuve* saw the patient, and was inclined to take the same view as his confrere: there was no cough, nor any complaint of pain in the chest; and this absence of pulmonic distress induced him to omit ausculting the chest. On the fourth day, however, the old lady began to complain of a feeling of *malaise* at the lower part of the right side of the chest. The sound of percussion over this part was found to be duller than elsewhere, and a tolerably

strong rhonchus and also a bronchial sound, but no crepitant rale, were heard on auscultation: the rest of the thorax gave out a vesicular respiratory murmur. There was no dyspnoea, nor any expectoration present; the general prostration was great; the pulse was 110 and tolerably full. Twelve ounces of blood were ordered to be taken from the arm; but, as the patient would not consent to the operation, 15 leeches were applied over the affected part instead. On the following day, the bronchial sound was louder than before, and the dulness on percussion was greater; still there was very little cough, and no expectoration. The bleeding was again recommended, and in the evening ten ounces were taken away; it soon became covered with a thick buffy coat: the night was restless, and the patient occasionally delirious. The bleeding was repeated to the same amount twice next day, and the blood was again found to be *sizy* each time. On the following (the seventh) day, the bronchial respiratory sound was less distinct, and was in part replaced by a light submucous rale over the lower part of the right lung: repeated doses of antimonial wine were given, and a Burgundy pitch plaster was applied over the affected part of the thorax on the eighth day, a fourth bleeding to the amount of ten ounces was practised, and still the blood was found to exhibit a buffy coat. In the course of a few days from this time, the patient was convalescent, although a light submucous rale continued to be perceptible over the base of the right lung.

Case 2.—A physician resident in Paris, 62 years of age, exhibited nearly the same train of phenomena as those now recorded to have been present in the preceding case. There was no cough or expectoration; only a slight aching was felt in the back and between the shoulders; the sound on percussion of this part was rather dull, while the rest of the chest was quite resonant; no crepitant rale was audible, but only a loud bronchial respiratory sound; the general prostration was great. All the symptoms were checked within 48 hours by three bleedings from the arm, and the application of a number of leeches to the chest.

In this case, the pneumonia was so masked and so difficult to be detected without the aid of percussion and auscultation, that a distinguished physician of the metropolis pronounced the case to be one of rheumatism of the back.

General Remarks.—It is to be kept in mind that the chest of an old person in health is usually very resonant on percussion, in consequence of the diminished thickness of the muscular and tegumentary coverings, the absence of fat, the ossification of the ribs, and the prolonged *sejour* of the air in the enlarged pulmonary vesicles. On the other hand, the vesicular respiratory murmur is usually feeble; it is no longer the soft silky sound of younger age, but has always more or less of a blowing character. Besides, the expiratory sound is more distinct than it used to be—in consequence probably of the dilatation of the vesicles, and the diminished elasticity of the lung causing it to subside less slowly than formerly during the act of expiration.

Keeping these circumstances in view, we shall now briefly notice the chief peculiarities in the two cases which we have recorded above: these peculiarities were the unusual resonance of the thoracic parietes, and the absence of the crepitant rale, as well as of cough, expectoration, dyspnoea, and pain.

1. As we have already explained, there is normally a greater resonance of the chest on percussion in old than in middle-aged persons: hence it requires a greater extent of hepatisation, or a larger amount of effused fluid within the chest, to cause a decided dulness of sound: very rarely indeed is the dulness so great in old people, as we not unfrequently meet with in younger patients.

2. As to the absence of the crepitant rale, which, it is well known, is usually described as the characteristic auscultatory sign of pneumonia, we have to remember that, for the production of this phenomenon, it is necessary that the air encounters a more or less viscid fluid in entering the pulmonary vesicles, and

that these vesicles expel the admitted air with considerable force. The smaller these vesicles are, the greater will be the elasticity of the lungs, and the more readily will the rale be generated; and *vice versâ*. Now in old age the vesicles are irregular and dilated, and the elasticity of the lungs is considerably diminished: hence the dry crepitant rale is rare, and the respiratory sound is usually rough and bronchial.

It is known that M. *Cruveilhier* attaches more importance in the diagnosis of pneumonia to the presence of the bronchial *souffle* than to that of the crepitant rale. This may probably be owing to his having studied the disease chiefly among the aged inmates of the Salpêtrière, of which he is one of the physicians.

3. Again, the absence of dyspnoea is likely to mislead the practitioner: it is probably owing to the slowness and the diminished activity of the respiration, as we advance in years. Hence any impediment to the free admission of the air into the vesicles is attended with much less embarrassment in old people. The absence or infrequency of the cough and expectoration may be owing to the circumstance of the mucous membrane being but little affected, the inflammatory action being confined chiefly to the parenchymatous tissue of the lungs.

4. As to the production of pneumonia in our two patients, let us remember that, in old age, the tonicity of all the tissues being much diminished, the blood moves slowly in the vessels; the circulation is therefore easily embarrassed, and hence even from a slight cause the alterations which constitute a phlegmasia are generated. At first there seems to be a congestion in the most depending part of the affected lung, and in three or four days afterwards the symptoms of pneumonia supervene. These ideas recal to our mind the *Boerhaavian* theories which so long were prevalent, and which have probably been too much neglected since the time of *Haller* and *Bichat*. It must be confessed that, in studying many of the diseases of old age, and more especially pneumonia, we often meet with a confirmation of the opinions of the learned professor of Leyden.

5. The two cases, which we have briefly alluded to, shew that we must not be over timid in the use of bloodletting and other means of depletion, even in very old patients. The debility and prostration are very apt to impose on the inexperienced; but let it always be remembered that the morbid process is much more enfeebling than even the active adoption of antiphlogistic measures. Moreover, leeches or even cupping the chest is not nearly so useful in old as in middle-aged patients, in consequence of the diminished activity of the cutaneous vessels as we advance in years. As a general remark we may observe, that the efficacy of these local depletions is proportionate to the age of the patient: hence their great utility in the treatment of the diseases of children, and their comparative powerlessness in the diseases of adult and of old age. We must, as a matter of course, be more guarded in the use of vigorous means in the treatment of old persons; but their more age can never be a sufficient reason for not having recourse to bloodletting, whenever there is reason to believe the existence of inflammatory action in any important organ.

Whenever there is great prostration and feverishness at the same time in an old person, it is prudent to examine attentively the state of the lungs. The epidemics of adynamic fever observed by *Pinel* at the Salpêtrière were only so many cases of pneumonia among the aged inmates of this immense hospital. *Pinel* had not learned to attribute to the lesion of one organ this *ensemble* of symptoms which he described under the term of adynamic fever.* The adynamic state, which is so common in the acute diseases of old age, is attributable

* Dr. *Cazeneuve* surely pushes his views a little too far in this assertion; it is to be noticed that he is quite a supporter of the doctrine that refers all fevers to a local morbid lesion—a doctrine to which we cannot give our assent.—*Rev.*

to the difficulty experienced by the system at this period of life to repair the losses sustained (les pertes éprouvées) by the nervous system.

In conclusion, we may observe, that almost all the cases of pneumonia in old people may be traced to the influence of exposure to cold. Hence the importance of warm clothing, warm rooms, &c. for such patients. The great age of *Buffon* and also of *Voltaire* was probably owing in not a little degree to the extreme care which these celebrated men paid to the circumstances now mentioned.—*Gazette Medicale*.

ON PARACENTESIS THORACIS. By M. SEDILLOT.—CASE OF PARACENTESIS OF THE PERICARDIUM.

The diagnosis of effusions into the cavity of the pleura is one of the most valuable discoveries of modern medical science; we need scarcely add that we owe it almost entirely to the aid of auscultation. We have only to read the works of *Baglivi*, *Morgagni*, and *Bayle*, (*Recherch. sur la Phthisic*, p. 335,) to discover how often, nay how generally, the nature of the disease in question was mistaken until revealed by dissection. When percussion first began to be practised, all was uncertainty and doubt. By means of this simple test, an important step in diagnosis was obtained: "*Verum si media pars aquâ repleta fuerit, evocabitur resonantia major in illâ parte quam aquosus humor non occupaverit*," says *Avenbrugger*, in his truly valuable work. But with candour he admits the insufficiency of percussion on too many occasions. How pregnant with important truth are these words, in which he describes the insidious progress of effusions into the cavity of the pleura: "*Observavi sæpe sub tussi prope nullâ, aut respirationis incommodo, integrum thoracis latus sonitu carnisse tunc quando, ex febris acutâ convalescens, sub febris erraticâ viâ agrotare visus est melico, donec, morbo sensim crescente (forsan etiam tunc nondum cognitâ mali sede), vel hydropico tumore semisepultus, vel ad pellem et ossa usque consumptus, periisset*."—(*Invent. Nov. &c. Vindobonæ*, 1761.)

..... Although great progress has been made of late years in the diagnosis of pleuritic effusions, it must nevertheless be confessed that the success of our treatment is on the whole far from being satisfactory. Hitherto the use of internal remedies has almost always failed in promoting the absorption of the fluid, when the quantity of this is at all considerable; hence we have been obliged to have recourse to a surgical operation to give the patient a chance of recovery. If this be not adopted, the patient becomes more and more emaciated, anasarca comes on, attended often with a colliquative diarrhœa and hectic fever, and, after a period more or less protracted according to the strength of the constitution, and still more to the nature of the effused fluid, whether it be purulent or not, death inevitably follows.

In the valuable thesis of *M. Raymond Faure*, recently published, we find the following directions as to the proper time to puncture the thorax. "It appears to us to be called for whenever a fair trial of those means that are calculated to promote absorption has been made, and without avail, for the relief of the symptoms; to insist too long on the employment of these curative means, the action of which is at best indirect and doubtful, appears to be not only useless but positively dangerous, for the following reasons: 1, the accumulation of the fluid within the pleura gradually increases the compression of the lung, until it ultimately prevents its expansion; 2, the fluid keeps up a constant irritation of the pleural membrane, either by distending it or by acting as a direct stimulant on its surface; 3, by separating the ribs from each other, it forms a mechanical obstacle to the obliteration of the costo-pulmonary cavity, which is the very principle and condition of a cure being effected; 4, the activity of the process of

absorption is always inversely proportionate to the quantity of fluid effused; 5, the successive evacuations imitate the process of Nature, by which she sometimes effects a cure of empyema by forming an outward abscess in the thoracic parietes; and, 6th, the increase and prolonged *sejour* of the fluid in the chest brings on a cachexia of the whole system, which inevitably proves fatal in the long run."

M. *Sedillot* has taken great pains to collect the results of almost all the cases on record, and, while admitting that the success on the whole of the operation of puncturing the thorax has been far from encouraging, he points out with much justice that not a few of the failures have been attributable to an ill-judged delay, or to some other mismanagement of the case.

If we were to judge of the propriety of the operation from the practice of *Dupuytren*, we must entirely abandon it; for out of 50 cases, 48 proved fatal; and M. *Velpeau* tell us that of 12 cases, in which he performed it, not one was fortunate.

The directions which M. *Sedillot* gives are these: 1, not to operate during the acute stage of the disease; the rash trials made a short time ago at the *Hôtel Dieu* prove the necessity of such an advice; 2, to operate, before the lungs have lost their power of expansion; 3, to put off the operation as long as possible, whenever there exist any incurable complications; for then it can only be regarded as a palliative.

Our author is however surely in error, when he states that the complete absence of all respiratory murmur is an absolute contra-indication of the operation. We have met with cases where no murmur could be heard at any part of one side, except perhaps in the subclavicular region, and which yet recovered ultimately. We are not therefore to abandon such cases as incurable, however unfavourable our prognosis may be; and, on the other hand, we must not be too sanguine as to the lung recovering its entire expansibility, merely because the murmur is distinctly perceptible. We need scarcely add that, whenever we have reason to suspect the complication of tuberculous deposit, our prognosis as to the result will necessarily be more guarded than otherwise.

M. *Sedillot* thinks that the nature of the effused fluid may be predicated from the existing symptoms; for there is always more fever and more local uneasiness according as this is more or less purulent. To a certain extent only this opinion is correct; but certainly no judicious physician will be too confident on this subject. As to his advice to try the effects of injecting any fluid into the cavity of the pleura, after withdrawing the effused fluid, we must positively and *in toto* condemn it as most dangerous, in spite of the high authority of M. *Recamier* to the contrary.

In the 33d vol. of the *Medicinische Jahrbucher*, recently published, there is a paper by Dr. *Schuk* of Vienna on paracentesis of the pleura, and also of the pericardium. During last year he performed the operation of puncturing the pleura in 44 cases—in eight of which a complete cure was effected, in four the patients died, and in the remaining 32, a decided, but not a permanent, relief was obtained. The chief danger consequent on the operation is the introduction of a considerable quantity of air into the cavity of the chest, when the fluid is withdrawn. This is apt to take place, it is well known, whenever a deep inspiration takes place.* He advises that a portion only of the effused fluid should be allowed to escape, when the disease has been of long standing: otherwise the lungs may not expand sufficiently to fill up the empty space. In some cases of

* Perhaps the simplest as well as the most effectual means of preventing this dangerous accident is that recommended by Dr. *Reybard* of Lyons, and described in the last number of the *Medico-Chirurgical Review*, p. 193.

purulent effusion, it is found expedient to retain a small caoutchouc canula in the wound, and allow the matter to drain off once or twice a day.

Paracentesis of the Pericardium.

In one case, occurring in a woman 24 years of age—in whom were all the symptoms, well characterised, of dropsy of the pericardium, to such an extent as to threaten suffocation—Dr. *Schuk* introduced a trocar between the third and fourth ribs, very near to the edge of the sternum, between it and the course of the internal mammary artery. At first only a few drops of blood flowed out: a small bougie, passed along the canula, touched the great bloodvessels, the pulsations of which were distinctly felt. The operation was immediately repeated between the fourth and the fifth ribs, when there flowed out slowly, and in a stream (*en nappe*), a certain quantity of reddish serosity. The patient slept tolerably well the first night, the dyspnoea being much less than it had been for a length of time, and, in a few days after, the general oedema of the legs was considerably diminished. By the end of the third week the effusion into the pericardium had quite disappeared.—*Gazette Medicale*.

Remarks.—Our chief reason for introducing the above notice of M. *Sedillot's* memoir is to draw the attention of our readers to a most valuable paper on the treatment of pleuritic effusion by the late Dr. *Hope*, whose recent loss must be deeply deplored by all who take an interest in thoracic pathology. He there points out how much may be done by a vigorous adoption of appropriate treatment; his chief remedies being the internal and external use of mercury, the application of repeated blisters, the administration of diuretics, and occasionally of hydragogue cathartics, and the use of a nutritious animal diet to support the strength of the patient. His remarks on the errors of diagnosis of this complaint are especially important, and likewise his novel observations on the means of arresting the hectic fever which is always present, when the effused fluid is purulent. According to his extensive experience, it is rarely necessary to have recourse to the operation of puncturing the chest. "If," says he, "Dr. *Stokes* has cured twenty cases running by Lugol's solution and ointment of iodine, together with blisters and other means, and I have cured thirty-three consecutive cases by other means, we must admit that fifty three cases cured successively, without selection, afford a strong presumption that all really curable cases are curable without paracentesis." This announcement is at once most unexpected and most gratifying. The whole of Dr. *Hope's* paper cannot fail to be read with the deepest interest by all medical men.—*Rev.*

CONSULTATION ON A CASE OF HERMAPHRODISM.

M. *Benoit* was consulted last year by Marie B——, 27 years of age, and registered in one of the towns of the department of Tarn as a girl.

When 14 years old she became aware that there was some peculiarity in the conformation of her genital organs, and she therefore applied to a medical man, who assured her parents that a simple operation would set her all right. An incision was made for the purpose of re-establishing the opening of the vagina; but this not being found, nothing else was done. Shortly before consulting M. *Benoit* she had been asked in marriage, and at first refused the offer; but, as her lover persisted in his addresses, she at length declared the cause. The account, which she gave to M. *Benoit*, was as follows: when about 14 years of age, she observed in the right inguinal region a small swelling, which was very painful for some time, but disappeared soon afterwards. Although she suffered considerably from headache, languor and general uneasiness, there had never been

any sanguineous discharge..... Below the mons veneris, which is altogether similar to that usually observed in women, there is a fissure terminated on each side by two thin corrugated labia, which are slightly covered with hair, and stretches backwards towards the anus. This fissure is only about three quarters of an inch deep: its anterior commissure terminates in a diminutive penis-like organ, which is provided with a prepuce, a gland, two cavernous bodies, but without any terminal aperture; it is subject to erections, and becomes then considerably longer. At the root of this organ, on its inferior surface, there is an opening which communicates with the urethra; constituting therefore the *vitiū conformationis* known by the name of hypospadias. This opening, at rather less than three inches from the anus, leads into the bladder by a canal which is curved, as in the male subject; but it is only about three inches long. When a sound is introduced into the bladder, and a finger passed up the rectum, there seems to be only a thin septum between them, but not any trace of prostate gland. In the inguinal region (it is not stated on which side) there is a small round and moveable body under the integuments.

From this state of parts, M. Benoit gave it as his opinion that the sex was male, and that his patient was incapable of contracting marriage.—*Journal de Montpellier*.

M. RACIBORSKI ON THE PHYSIOLOGY OF MENSTRUATION.

Our readers will remember that in our recent review of *Gendrin's* *Traité Philosophique*, we drew their attention to this curious, and hitherto ill-understood, subject of physiological enquiry. From the researches of this gentleman, and from those of M. *Negrier*, as well as of Dr. *Robert Lee*, it was suggested that there is an actual rupture of one of the ovarian vesicles at each period of menstruation, and that the sanguineous discharge from the uterus was the result of this lesion. M. *Raciborski* questions the accuracy of this statement. While he admits that the primary movement in each act of menstruation is a congestion of the vessels of the ovaries, he denies that any rupture of their surface necessarily takes place at the same time.

"Having examined," says he, "in a great number of cases, the ovaries of women who had borne children, we feel assured that, as a general rule, the number of the cicatrices on the surface of the ovaries is always proportionate to the frequency of actual impregnation, whether it has been a genuine or only a false conception."

Some of the subsequent statements of M. *Raciborski* himself seem, however, to be at variance with this assertion, and partially to confirm the idea of frequent, if not of invariable, rupture during menstruation. Having quoted the opinion of M. *Negrier*, which is expressed in the following words: "An afflux of transparent fluid takes place into the cavity of one of the superficial vesicles of the ovary: this fluid, by its accumulation, depresses the yellow matter, distends and attenuates this last (the vesicle?) at the point which presents the least resistance; the ovarian envelopes are at length raised up, distended, and ruptured, with the vesicle," our author thus comments upon it.

"According to the distinguished professor of Angers, there must take place, once a month, in the female constitution, a phenomenon analogous to what we observe to occur in many birds. Women, like hens, must have the power of detaching ova from their ovaries without any previous fecundation. But, before we can admit so startling a proposition, we require to have more conclusive data than those hitherto made public. As to the statement that cicatrices with red edges, or small pouches filled with blood, have been found in the ovaries of women who had menstruated shortly before death, we may observe that on many

occasions we have observed similar alterations in the bodies of women in whom the catamenia had been suppressed for several months, as is generally the case, for example, in those who die of phthisis."

M. *Raciborski* sums up the conclusions to which he has come, after a very elaborate enquiry, in the following propositions:—

1. That menstruation is a consequence of the accomplishment of the development of the ovaries.
2. That it is the direct result of the means employed by nature to place the ends of the Fallopian tubes and the ovaries in the relations necessary to fecundation and the passage of the fecundated ova.
3. That the sanguineous congestion, which is indispensable for obtaining those conditions in the human being, appears sufficient in itself to explain the occurrence of the hæmorrhage which constitutes menstruation—without having recourse to supposing that there is any necessary solution of continuity.
5. That the vertical position, favouring still more the effects of sanguineous congestion on the generative organs, may be one of the principal reasons of the abundance of the menstrual flux in women, and in some species of simiæ.
5. That, for want of having precise information as to the nature and theory of menstruation, it has been hitherto impossible to establish a rational treatment of the various disorders induced by irregularities of this function.
6. That it is not yet sufficiently proved that the ovula arrive successively to maturity at each menstrual epoch, or that the most mature ovum then approaches nearest the surface of the ovarium, there to become ruptured and give exit to a germ.—*L'Experience*.

M. MAGENDIE ON ANIMAL MAGNETISM.

At the meeting of the Academy of Sciences on the 24th of June last, M. *Magendie* read a report on a case of alleged cure of a deaf and dumb person, which had been communicated by M. *Dupotet* (the Baron, we suppose, who took French leave from London two or three years ago).

As we had not seen the patient, says the reporter, before she was under treatment, we could not have vouched for the cure, even had it been complete; but unfortunately for both patient and doctor, it was far from being so. The case was simply one of deaf and dumb infirmity, in which the invalid could perceive sounds when very loud, and could understand a few articulate words.

To judge of the efficacy of his treatment, we proposed to M. *Dupotet* to try it on three inmates of the deaf and dumb institution, whose actual state might be ascertained beforehand.

He agreed to this proposal, and required eight days for effecting a cure: we granted him fifteen. The three persons, whom we entrusted to his care, were not insensible to every kind of sound,—in truth, this extreme degree of the infirmity is very rare—all of them could recognize certain sounds, if not by the ear, at least by the vibrations of surrounding bodies. At the end of the eight days, M. *Dupotet* represented them as cured, and as capable, with proper instruction, of taking that position in society to which they were entitled. Our three patients had, we admit, gained a little more sensibility of hearing; the explosive words, such as *papa*, *Dupotet*, were pronounced with rather more facility than formerly: but this was all the extent of the improvement.

They were not at all surprised themselves at the change, and the physician of the establishment told us that the amendment was in no respect different from what might at any time be effected, whenever the faculty of hearing is more than usually exercised, but that this continues for a very short time, and then the patients relapse into their former condition.

M. *Magendie* stated that he had recently seen the deaf and dumb boy, *Tressel*, who had been said to be cured by injections into the tympanum of the ear. Although the case is now of long standing, and he has received all the benefit of a most assiduous care, his speech is still extremely imperfect, and he can scarcely do more than repeat the words which he is in the habit of hearing pronounced in his presence. It seems therefore that it is not sufficient to restore to deaf and dumb persons the power of hearing and speaking, but that it is necessary to give them at the same time the instinctive desire of speech, which induces children to practise it of themselves, without being solicited.

As to the three patients committed to M. *Dupotet*, they have not continued the treatment which he used, although an offer was made to him to send them to his house three times a week for the purpose. Since that time, we have heard no more from him. We must therefore in conclusion pronounce that the cure alleged by him to have been effected by animal magnetism is quite without foundation.

It appears from the report of a subsequent meeting of the Academicians, that it was resolved by a large majority, that they will not hear anything more on the subject of this mysterious science! Several of the members indeed objected to this peremptory decision, asserting that, although there is much quackery in many of the statements of its admirers, there seem to be some observations and phenomena, which deserve to be more attentively examined. MM. *Cloquet* and *Bouillaud* expressed themselves to this effect; and on the other hand M. *Breschet* said that, as the Academy of Sciences had come to a resolution to proceed at once to the order of the day whenever any question respecting the quadrature of the circle or perpetual motion was brought forward, the subject of animal magnetism should be dealt by them in the same way.

ANNUAL REPORT OF THE VACCINATION COMMITTEE OF FRANCE.

The following are the general conclusions of this Report read by M. *Gauthier de Claubry*, at the Royal Academy of Medicine.

1. In the epidemics of small-pox which have occurred in different departments, vaccination has unquestionably continued to possess the power of arresting the evil, by reducing the genuine variola to a varioloid disease.
2. Throughout France the immense majority of those who have been some time vaccinated has remained unaffected either by the sporadic or by the epidemic variola, although in immediate contact with those who were suffering.
3. Vaccination invariably induced a favourable modification on the course of variola, whether the disease was in its early or in its advanced stage.
4. Some cases of varioloid disease which nearly resembled variola, and several even of variola itself, have occurred in vaccinated persons, although many of the observations are manifestly incorrect. For, on the one hand, the appellation of variola has often been given to an eruption which has lasted only three days; and, on the other hand, it is but too apparent that many of the certificates of an alleged successful vaccination cannot be trusted to. We can confidently affirm that, after an attentive examination of numerous cases of variola and of varioloid eruption occurring after vaccination, we have always found the disease to be less severe than eruptions of the same nature appearing after a first attack of variola.
5. The majority of observers deny that the vaccine virus has undergone any change by having been transmitted through a multitude of persons. Several practitioners have vaccinated one arm with the ancient, and another arm with the renewed, virus, and the vesicles on both arms have been observed to be quite the same.

6. Most medical men disapprove of re-vaccination, at least as a general measure, on the ground that, by thus exhibiting a want of faith in the protecting powers of the remedy, the confidence of the people would be inevitably much shaken, and greater difficulty than hitherto would be experienced in inducing them to submit to it. Moreover, the partisans of re-vaccination are not agreed as to the proper time of resorting to it.

7. In 1839, of 6652 re-vaccinations, which were carefully watched, a pustule similar to the normal one was observed in 718 cases; in 1283 cases the pustule was of a doubtful character; and in 4651 the operation failed completely. It thus appears that a large majority of persons are not capable of contracting vaccinia twice, and consequently that re-vaccination is generally useless.

8. Even when re-vaccination has had a positive result, it has not always protected the person from the contagion of variola.

9. Even supposing that re-vaccination had the effect of bestowing complete protection, we could not in this way hope to extinguish the variolous infection, as it would be almost impossible to cause it to be adopted as a universal measure.

M. *Piorry* observed that he heard with regret the statement in the preceding report, that re-vaccination should not be adopted as a general measure. I have, said he, practised re-vaccination in a great number of cases, and, without having kept an exact account of the cases where it produced a positive result, I may confidently affirm that, in a fourth or fifth of the cases, the operation has induced a local eruption, the characters of which are to those of genuine vaccinia as the characters of the varioloid disease are to those of genuine variola. Is it not, therefore, possible that re-vaccination might protect from the varioloid disease, which we know is sometimes very severe, as the first vaccination does from variola itself? For this reason I am of opinion that some of the conclusions of the report be not so decided and peremptory as they at present stand.

M. *Bousquet* :—From the trials of re-vaccination, of which I have been able to verify the results, it follows that, of 138 operations, a perfect normal pustule was induced in 30. I re-vaccinated 90 persons at Versailles, and of this number I obtained 37 genuine vaccine pustules. These results are conclusive, in my opinion, in favour of re-vaccination; the facts cannot be disputed, for they occurred under the inspection of two excellent practitioners at Versailles, MM. *Vitry* and *Boucher*.

Several other members of the Academy, including M. *Bouillaud* and M. *Dubois*, agreed with the preceding speaker, that the report of the committee was too decided and peremptory in some of its conclusions.

Remark.—It would seem that the results of re-vaccination are very different in different countries. Nowhere has it been practised with so much success and on so large a scale as in some parts of Germany. We observe that, during last year, 42,522 soldiers in the Prussian army were re-vaccinated; in 34,573 of whom, distinct cicatrices on the arm were present, in 6177 the cicatrices were indistinct, and in 2772 none were to be seen. The progress of the re-vaccination is stated to have been regular in 20,952 persons, irregular in 8,820, and to have failed in 13,750; in several of the last the operation was repeated, and with success.

The more that we consider this important question, the more convinced are we that many statistical reports are little to be trusted to, as affording safe or conclusive data to build general deductions upon. Unfortunately a great number of first vaccinations are reported to have been successful, without having been properly examined.—*Rev.*

SCENE IN THE FRENCH ACADEMY.

M. *Amussat* read a new communication on the cure of stammering by a surgical operation. Having stated that up to the present time (25th February) he had performed the operation of dividing the *genio-hyo-glossi* muscles in nine cases, he now brought forward two of the patients to be examined by the members, and other two on whom he proposed to perform the operation, in order that no doubt might exist as to the extent of the infirmity to be relieved. He then exhibited to the Academy a pathological specimen, which he had received from M. *Begin*; this was the tongue of an old soldier, who had always stammered a great deal in his speech, and had recently died at the Val de Grace. The two lateral halves of the organ were of unequal size, the left one being flattened, while the right was thick and swollen. This state of the tongue seems to shew that one of the chief impediments to unembarrassed pronunciation consists in an abnormal conformation of the organ; being too short or drawn to a side (*devié*) by the contraction of the *genio-glossi* muscles, their section will account for the relief given by the operation.

M. *Velpeau*.—I must confess that the examination of stammering persons, as usually practised by the Academy, offers no serious guarantee for truth. We all know that the infirmity varies a great deal from a number of influences. It would be more rational, in my opinion, to submit all the patients to an attentive examination by a committee appointed for the purpose.

M. *Dubois* concurred in the sentiments now expressed by M. *Velpeau*. He did not think it consistent with the dignity of the Academy to see patients mounted up upon the desk, as if it was a shew-place, and made to repeat the same words and answer the same questions, like parrots.

Here M. *Amussat* rose to call the member to order for the offensive expressions he was using. M. *Dubois* however persisted, and expressed his surprise at the reclamation of the learned gentlemen.

At this moment, M. *Gerdy* called upon the president not to open a discussion, except when the patients have been sufficiently examined, and have left the hall. Some members having called upon M. *Amussat* to explain the processes which he followed in performing his operations, the president, M. *Roux*, availed himself of the opportunity to state, that a few days ago he divided the *genio glossi* muscles in a stammerer. The patient, immediately after the operation, pronounced some words with rather greater facility; but he has since refused to speak at all, and, as considerable inflammation came on in the mouth, a number of leeches have been applied.

M. *Amussat* here was proceeding to explain his operation, when M. *Gerdy* again rose and said that he had possession of the chair: he declared that a most rigid examination of the alleged cures should be instituted by a special committee. The operation, he went on to say, exhibits two sides, one moral, the other scientific; hitherto however he could only see a commercial (industriel) side in any of them. This word excited among the learned academicians a storm which it defies all language to describe. Amid the most dreadful shoutings, violent apostrophes, and continual interruptions, M. *Gerdy* insisted upon reading from a provincial journal an article in which the operations of M. *Amussat* and of M. *Boyer* are described in the most pompous terms. During the reading of this paper, M. *Amussat*, the prey of the most lively agitation, was continually repeating, in the most solemn terms, his entire ignorance of the article in question. All the academicians rushed into the *hemicycle*, forming a ring round M. *Gerdy*; some calling upon him to continue, others to stop, while many of the members at the same time were shouting to the president to dissolve the meeting. After having made some ineffectual attempts to restore order, M. *Roux* declared that the meeting was dissolved.

"It is utterly impossible," says the reporter, "to give any just idea of the extreme confusion at the close of this meeting of *savans*;* it recalled to our minds the recollection of those stormy political assemblies, which are faithfully recorded in the past history of our country."

(So much for the deliberations of the Royal Academy of Medicine in the metropolis of the most polite people of the world !)

M. DUBOIS ON THE SIGNS OF PREGNANCY.

In treating of the signs of pregnancy furnished by the state of the mammæ, M. Dubois says—

"In a pregnant woman, the puffy swelling of the areola is a sign to which Professor Hamilton of Edinburgh attaches the greatest importance, because it is, according to his experience, never to be observed in those who have not been exposed to conception. We observe indeed occasionally in maiden women some unusual appearances in the areola, but never the genuine *boursoufflement*. The accuracy of this opinion has been questioned by several physicians; but I must acknowledge that I am quite inclined to agree with Dr. Hamilton. Unfortunately the character of the areola to which we allude is far from being uniform or constant; but, when it is present, we regard it as one of the most trustworthy of the signs of pregnancy."

He afterwards remarks:—"The areola in a pregnant woman assumes a darker colour; it exhibits minute papillary eminences, which existed indeed beforehand, but which become more distinct and elevated; and in some cases it is raised up, prominent, and as it were œdematous. Around this first areola there is usually noticed a second one, which exhibits a spotted appearance. The veins of the mamma also are much larger than before. The elevation of the areola, now described, is unfortunately rather a rare occurrence; for it is a very important one, and almost infallibly indicates the condition of pregnancy."

The Discolouration of the Areola.—There is much discrepancy of opinion among accoucheurs as to the value of this sign; some regarding it as very characteristic, while others attach but little importance to it. The anecdote of Dr. William Hunter on one occasion pronouncing, from the presence of this sign in a female subject brought for dissection, that she was pregnant, is well known. M. Dubois acknowledges that the sign is a valuable one; for it is certainly present in a very great number of pregnant women; but he reminds his readers that its value is considerably diminished for the following reasons:—very frequently it is not observed at all, or it is very indistinct, in women of a fair complexion; the dark colour almost always remains more or less decided, when once a woman has conceived; and, thirdly, in certain uterine diseases the areola is apt to be discoloured, although the woman has never been exposed to the chance of impregnation. He adds: "Each of the signs now mentioned—the discolouration of the areola, the secretion of milk, the prominence of the papillæ, and the

* While reading this, we were involuntarily reminded of the witty anecdote related by Las Casas in his memoirs of Napoleon. During the French campaign in Egypt, the *savans* and draughtsmen who accompanied the army were huddled with the baggage into the middle of the squares, the moment that the enemy appeared. No sooner were the Mameluke horse descried, than the word was given, "form square; artillery to the angles; asses and *savans* to the centre"—a command which afforded no small merriment to the soldiers, and made them call the asses *demi-savans*.—Rev.

puffy elevation of the areola—taken *separately*, cannot be well trusted to in any case; except perhaps the last, and this unfortunately is only of occasional occurrence. But when they are co-existent in the same case, they will generally be found sufficient to determine the presence of pregnancy.”

M. *Dubois* makes repeated allusion to the recent researches of Dr. *Montgomery* of *Dublin*; but, while commending them for their accuracy in the main, he is inclined to believe that he attaches rather too great importance to some of the signs furnished by the state of the mammæ. He professes his inability to give any opinion as to the value of the sign that has been drawn from a change in the colour of the lining membrane of the vagina. “It has been alleged that when impregnation takes place, the surface of the vagina assumes a peculiar purplish or violet-blue colour, which seems to be the result of sanguineous congestion in the part. This discolouration is said to commence in the second month of pregnancy. It is considered by some writers as a certain sign of pregnancy, provided no hæmorrhoidal disease be present at the time; for this also is said to induce a change in the colour of the vaginal mucous membrane. M. *Jacquemin*, physician of La Force prison, in which there is always a great number of prostitutes, has stated in a work upon this subject, that he has very frequently observed the discolouration, and that he has always found it dependent upon pregnancy. His observations have been made on between four and five thousand women; and in no one instance has he been mistaken in his diagnosis, when this sign was present. As a matter of course it requires the speculum to be used to detect it properly. M. *Dubois* confesses that he can say nothing in its favour from the results of his own experience. It is to be remembered that it is admitted by M. *Jacquemin* himself, as well as by others who have faith in it, that the vaginal membrane may acquire a darker colour than usual from other causes besides pregnancy. If a woman be examined with a speculum immediately after the cessation of the catamenia, the cervix uteri and the vagina will be observed to be more or less congested. It is well known that, during the season of rutting in animals, there is always a turgescence of the generative organs. Whatever, in short, tends to cause a more than usual flow of blood to these parts will probably induce some change in the colour of the lining membrane of the vagina.”

The attention of obstetrical practitioners has of late years been directed by several writers to the state of the urine during pregnancy. Dr. *Golding Bird* describes the peculiarities which the secretion exhibits in the following terms. If put aside in a glass vessel for two days, it was observed to become much troubled; innumerable globules, having a greasy or fatty aspect, appeared on its surface: after another day or two, it became completely covered with a pellicle, resembling that which forms on mutton broth when cooling; and, on the sixth day, this crust broke up and fell to the bottom. These appearances were observed in nearly thirty cases. Submitted to the microscope, the pellicle exhibited beautiful triangular prisms of triple phosphate of magnesia, contained in a mass of granular matter, and here and there patches of tolerably regular globules. Dr. *Bird* has observed the phenomena, now described, in the urine as early as the second month of pregnancy; and he assures us that he has derived great assistance in the diagnosis of pregnancy from attending to them. It will be very interesting if his observations are confirmed by the researches of others.—*Gazette des Hôpitaux*.

Clinical Review.

PENNSYLVANIA HOSPITAL.

STATISTICS OF FRACTURES AND DISLOCATIONS TREATED DURING THE TEN YEARS, FROM 1830 TO 1839, INCLUSIVE. By G. W. NORRIS, M.D.*

DR. NORRIS thinks that such a statistical account as this may illustrate beneficially the treatment of fractures and dislocations. Dr. N. first describes the methods adopted in the hospital.

1. *Fracture of the Femur.*

In the treatment of most fractures of the thigh, the straight position is preferred, and the apparatus of Desault modified, is that mostly employed. The improvement consists in the greater length of the outer splint, and the attachment to its lower end of a small block, over a notch in which the extending band passes, in order that the extension be made in a line with the axis of the limb. If the limb can be at once brought down to its natural length, it in all cases should be done on the first application of the apparatus; but when there is so much muscular contraction as to render this very painful, the limb need not be drawn to its full length at first. In these cases it should be extended as much as possible, and, at the second visit of the surgeon, should be seized at the ankle, and slowly pulled downwards, while an assistant tightens and makes fast the extending band. This course is to be repeated until the fragments are perfectly reduced, which may in most cases be readily done at the end of twelve or eighteen hours. No great advantage is believed to be gained by the employment of short splints, or bandages of any sort, applied immediately to the thigh, and their use is dispensed with, as they prevent the surgeon from accurately examining the state of the fracture, and require that the limb should be disturbed in order to re-apply them. A long narrow bag, stuffed pretty firmly with cotton, and covered with buckskin, is used for the counter-extending band; and a double buckskin gaiter, with a thin layer of carded cotton laid over it, or a buckskin band lined with linen, is made use of for the extension. Extension violent enough to cause pain should never be made use of; it ought always to be moderate, steady, and permanent. If constant pain is complained of at any point on which the dressings press, it should be immediately examined and re-adjusted. The restlessness of patients causes any apparatus to be easily displaced, and it is therefore necessary to smooth, tighten, and carefully re-examine it daily. Excoriation of the heel is most frequently produced by want of care in not having the extending band smoothly applied to the part, or by tightening it in too great a degree without having previously drawn down the limb with the hand. Sometimes, however, excoriation is caused by the weight of the foot alone; and in these cases the application of a piece of kid, spread with soap cerate, will mostly prevent it.

We think that sufficient advantage is not usually taken of the buffalo's skin plaster as a means of preventing the bad effects of pressure. Laid on where the bandages are likely to be stringent, it answers admirably in defending the integument. The instep, the heel, and the perineum, should be covered with it.

We fancy that the addition of a good boot or foot-piece to the bottom of the

* Amer. Journal of Med. Sciences, April, 1841.

long splint is useful. A common block or cross-bar does not act as uniformly on the foot. Carefully managed, the long splint is an excellent instrument. But we like the short splints with it.

Dr. Norris continues:—In fractures of the femur within the capsular ligament, the application of any splints in the treatment is discarded—the limbs being merely supported by pillows in the extended position. No case has been observed in the period comprised in this report, in which the toes were thrown inwards. Several instances of fractures about the hip-joint, in persons of middle age, have come under notice, in which, even with the most accurate examination and measurement, it was impossible to detect any crepitus or shortening of the limb till after the lapse of one or more days.

2. *Fractures of the Leg.*

In the treatment of fractures of the leg, as in those of the thigh, splints or bandages are rarely applied to the limb. The leg is placed in a fracture-box, upon a well-stuffed pillow, previously covered by a thin oil cloth, in such a manner as to bring the sole of the foot in contact with the foot-board. The fractured bones are then accurately adjusted, and the sides of the box are tied together moderately tight. The foot is securely fastened to the foot-board by means of a strip of bandage, in order to prevent its falling to either side, and the pressure of the pillow is, in the vast majority of cases, quite sufficient to retain the fragments in their natural position. The foot-board of the box is set into its bottom nearly straight, and is made to project beyond the foot, in order to prevent the toes from falling downwards, and thus cause a projection forwards of the upper end of the lower fragment.

We must confess that, in many cases, we prefer the common splints, or an Assalini's box, to the junk. The latter is hot, and, in compound fractures more particularly, inconvenient.

To prevent inflammation, cooling lotions are applied to the limb, and every attention is paid to position. In order to obviate deformity in these fractures when they occur at the lower part of the leg, it is highly important to keep the foot well forwards, and this is best done by placing under the heel some layers of carded cotton.

In very oblique fractures of the leg, where the pressure made by the pillow is not sufficient to prevent the recurrence of deformity after its reduction, permanent extension is kept up by means of Dessault's splints, as in fractures of the thigh.

In fractures of the lower end of the fibula, where the foot is much drawn outwards, the apparatus of Dupuytren, consisting of a conical pad to make pressure over the internal malleolus, and a single splint applied to the inside of the limb, from the upper extremity of the leg to some distance beyond the foot, is employed; but where, as is most generally the case, the tendency to a recurrence of the deformity is not in a great degree, the apparatus commonly made use of for other fractures of the leg, consisting of the fracture-box and pillow, so placed as to exert rather more pressure than usual upon the outer ankle, is resorted to. These fractures are sometimes accompanied by compound luxation of the lower end of the tibia.

In compound fractures followed by suppuration, where the discharge of pus becomes profuse, or where hæmorrhage from the veins or small arteries, either primary or secondary, is troublesome, or is to be looked for, an excellent mode of treatment was introduced into the house many years since by Dr. J. R. Barton. It consists in fixing the limb in a good position in a fracture-box on a bed of dry bran, and surrounding and enveloping it with the same material. This application is soft and pleasant to the patient, makes moderate and very equable pressure, which is increased in proportion to the increase of the hæmorrhage by the bran becoming moistened and expanded, and is unirritating to the wound, at

the same time that it may be removed with the aid of a spatula or syringe, and re-applied without causing pain or disturbing in any degree the limb. No mode of dressing that I have ever made use of can be compared to that with bran, in injuries of this kind attended with profuse suppuration, during our extreme hot weather. At this season, the fetor arising from the discharge is often so powerful as to taint a whole ward, and in such cases animalculæ are generated in the course of a few hours, if the wound be in the slightest degree exposed. Clean bran, by covering completely and closely every part of the injured surface, hinders the generation of these animals, and at the same time prevents, in a great measure, the odour that would otherwise arise, by rapidly and effectually absorbing the discharge.

3. *Apparatus for Fractures of the Clavicle.*

The apparatus used at the hospital consists in a pad for the axilla, a ring formed of some soft substance, as a roll of muslin or of buckskin, for the shoulder of the sound side, and a sling for the elbow made of linen, extending half way up the arm, and two-thirds of the way down the fore-arm. To the elbow-piece is attached three strong tapes—one to its upper and posterior part, and one to each anterior extremity. The following is the mode of applying the apparatus; a proper pad being selected and fixed in the axilla, by means of tapes fastened to its upper ends, and passing over to the sound shoulder, the ring or collar is carried up and held on the shoulder of the sound side; the sling is then fitted to the elbow, and after the fracture is reduced by drawing the arm downwards, and pushing the elbow upwards across the chest, the tape on its posterior part is carried over the back and firmly tied to the collar on the opposite side. This done, the surgeon comes round in front of the patient, and makes fast to the collar the tapes attached to the anterior extremity of the elbow-piece. These are to be drawn tight enough to throw the shoulder sufficiently outwards and upwards to remove all deformity. The hand is then supported in a sling, or by a strip of bandage fastened to the collar. The whole apparatus is to be re-examined and tightened daily. The chief indications in the treatment of fracture of the clavicle are perfectly fulfilled by the use of this apparatus; the pad in the axilla throws the shoulder outwards, at the same time that the drawing up of the elbow by the linen bag throws it upwards and backwards. Besides this it is simple, requires no bandaging, and leaves the part injured at all times open to inspection. The apparatus, too, can readily be applied in females, in whom it is all important to obviate deformity. The apparatus was contrived and introduced into the practice of the hospital in 1828, by Dr. Fox, then house surgeon, since which time it has been constantly employed.

4. *Fracture of the Humerus.*

In fractures situated at the middle of the bone, three or four pasteboard splints are commonly made use of—the outer extending from the top of the shoulder to the external condyle, the inner reaching from the axilla to just above the internal condyle, and the anterior one sufficiently long to reach to the bend of the arm. The roller is applied, as in all other cases, from the fingers up, and the fracture being reduced, and the splints fixed as mentioned, is returned and fastened over them. The arm may then be bound to the body by a broad bandage, or can be left free, supported by a sling. In patients who are very restless, the roller soon becomes loose about the fore-arm and elbow, and necessitates a frequent re-application of it. To prevent, in a measure, this almost daily renewal, the use of an angular board splint well padded, and extending from the axilla to the hand on the inside of the arm, is sometimes substituted; one or more short splints being at the same time applied above the elbow. The fragments by this means are held perfectly in place, and the angular splint, by holding the fore-arm at rest, keeps the bandage well and evenly applied for a much longer period than is

otherwise possible. During the cure, the angle of the splint should be occasionally changed, in order to prevent any degree of stiffness at the elbow. This mode of dressing is applicable to fractures below the insertion of the deltoid only; for fractures situated high up in the bone it would be manifestly improper.

5. *Fractures of the Elbow.*

One of the most common of these, after fractures of the inner condyle, is that in which two fractures and three fragments are present, the humerus being broken transversely just above the condyles, and these last separated longitudinally. All fractures about this part are very troublesome and serious accidents, and to treat them well, requires extraordinary care and attention, whatever method of treatment may be made choice of. Two rectangular splints applied to the inner and outer sides of the arm, and extending from its upper part to the ends of the fingers, are frequently employed with us. When these are used, the angles of the splints should be frequently changed to prevent deformity and stiffness of the joint—those first applied being removed after ten or twelve days, and replaced by others of an obtuse angle. Another method of treatment, which is sometimes pursued at our hospital in fractures about this joint with very satisfactory results, consists in the application of a single board splint applied to the front of the arm. This should be of the width and shape of the limb, well padded, and extending from the upper part of the arm to the ends of the fingers. At first a right angled splint may be used, but at every dressing, (and after the first few days they should be frequent,) it is to be changed for a more obtuse angled one, until finally the arm can be brought perfectly straight. The obtuse angled splints are then recommenced with, and gradually replaced by others less obtuse, until the limb is again brought to a right angle. This plan carefully pursued, will generally prevent deformity, at the same time that it is of more easy application, and more effectually hinders the occurrence of ankylosis than the common mode of dressing.

6. *Fractures of the Fore-arm.*

These accidents are treated by means of a roller and two splints, applied in the usual manner. Fractures of the lower end of the radius, which, it may be remarked, are very frequently mistaken for simple sprains, are treated also with two splints; the inside one extending from the upper part of the arm beyond the ends of the fingers, while that on the outside passes below the knuckles. In these, as in all other cases in which a simple fracture communicates with, or is in the immediate neighbourhood of the wrist or elbow joints, the dressings should be removed at the end of ten or twelve days, and after the joint is gently exercised, are to be re-applied. This should be repeated, at farthest, every second day. The same rule should be observed in all cases in which the fore-arm is confined in two long splints, as otherwise great rigidity of the wrist-joint occurs, which is annoying to the patient, and requires a very long time for its disappearance.

7. *Fractures of the Cranium.*

In cases of simple fractures of the cranium with depression of bone, but unaccompanied with symptoms of compressed brain, the trephine has not been resorted to, while, in instances of compound fracture, attended with depressed fragments, even where no symptoms of compression existed, it has been the general practice to remove the portions driven in.

8. Number of Fractures and their Relative Frequency for twelve years.

	Number.	Cured.	Relieved or by request.	Died.	Amputations.
Fractured thigh	118	92	9	17	2
Fractured leg	293	241	11	41	14
Fractured cranium	46	14	2	30	
Fractured patella	16	14	2		
Fractured spine	8		1	7	
Fractured sternum	5	4		1	
Fractured clavicle	84	75	7	2	
Fractured arm	250	216	22	12	9
Fractured fingers	9	8	1		
Fractured scapula	10	8	1	1	
Fractured elbow	2	1		1	
Fractured nose	3	3			
Fractured jaw	19	12	1	6	
Fractured pelvis	5	5			
Fractured foot	12	10	2		4
Fractured ribs	46	39	2	5	
Fracture	2	2			
Compound fractured pelvis	1			1	
Compound fractured knee	2	1		1	2
Compound fractured thigh	15	4	1	10	
	<hr/> 946	<hr/> 749	<hr/> 62	<hr/> 135	<hr/> 31
Un-united fractures	13	9	2	2	
Total,	<hr/> 959	<hr/> 758	<hr/> 64	<hr/> 137	<hr/> 31

No instance of artificial joint followed the treatment for fracture during the ten years included in the report. All the cases observed there, during that period, having been sent to the institution from distant parts.

9. Dislocations treated during 10 years.

	Number.	Cured.	Relieved or by request.	Died.		Number.	Cured.	Relieved or by request.	Died.
Dislocated shoulder	49	45	3	1	Dislocated finger	1	1		
Dislocated hip	17	13	3	1	Dislocated great toe	1	1		
Dislocated astragalus	1		1		Compound dislocated thumb	2	1	1	
Dislocated cervical vertebrae	1			1	Dislocation and laceration	1			1
Dislocated jaw	2	2			Dislocation and fracture	1	1		
Dislocated ankle	2	1		1	Dislocation	1		1	
Dislocated elbow	7	7							
Dislocated wrist	4	4							
Dislocated clavicle	3	3							
Dislocated radius	1	1							
					Total,	94	80	8	6

With the exception of a few of the luxations of the shoulder and hip, the cases included in the following table were of recent occurrence, and in all of these cases the bones were reduced without accident of any sort. Two out of the three luxated shoulders marked as discharged by request were incurable.

One of these was a case of dislocation of the humerus forwards of sixty-two days' standing. The pullies were used ineffectually. The other was a forward luxation of three months' standing. No force could reduce it.

Among the cases of dislocation at the shoulder cured, are those which had been out twenty-six, forty-five, fifty-three, thirty-one, ten, twenty-one, and thirty-one days, respectively.

The only instance of luxated hip of long-standing, in which attempts at reduction were deemed proper, was that of a lad, *ætat.* 12. The signs of dislocation, upwards and backwards on the ilium, of the right femur, were well marked, with shortening of the limb to the extent of two inches. The accident had happened fourteen weeks previously, and its nature had been mistaken by the person called to visit him. The injury had been produced by a fall from a height, and the head of the bone was to a certain extent moveable by rotating the limb. After the application of the pullies he was bled largely from the arm, and took a solution of tartar emetic, by which means his system became completely relaxed. Pretty strong extension was then made from above the knee, and after this had been kept up near half an hour, the head of the bone was drawn outwards by means of a towel, and the knee rotated. During these efforts a sudden crack was distinctly heard. The apparatus was immediately removed. The boy was now exceedingly prostrate. Much more motion than before the trials existed at the hip; the toes could be turned much further outwards, and the knees could be to a certain extent separated. The boy did not complain of pain on rotation, and took a few steps upon the limb some time after being released. It was at first feared that a fracture at the neck of the bone had been produced, but repeated close subsequent examinations proved this not to be the case. He left the institution twenty-two days after the trial, with more motion in the limb than he had previously had.

There was a case of dislocation of the cervical vertebræ, unattended with fracture. The yellow ligaments and the ligamentous fibres, holding together the oblique processes, were ruptured, and the fifth cervical vertebra was thrown forwards upon the sixth. Examined in front, the vertebral ligaments were found also to be ruptured, and the inter-vertebral substance torn up, so that the body of the fifth was completely separated from, and projected over the sixth. Accurate examination, after the removal of the upper part of the spinal column, proved that no fracture existed, and that the injury consisted in a simple displacement of both body and processes of the vertebræ.

SHATTUCK ON THE VITAL STATISTICS OF BOSTON.*

Our American contemporary contains an interesting paper on this subject. We shall allude to some of the principal points.

The system of registration of births, deaths, and marriages, would seem to be very defective in America. But an amendment is purposed.

The population of Boston was estimated at the beginning of the last century to have been about 6,750, and the annual deaths to be 230—one in 29.3, or 3.4 per cent. The deaths from 1705 to 1714, inclusive, were 3,341, and from 1715 to 1724, 4,350, giving an annual average of about 1 in 24, or 4.09 per cent.

The lowest mortality was in 1755 to 1764, being 514—one in 34, or 3.24 per cent. of the population, annually; the highest was in 1745 to 1754, being 671—one in 23, or 4.26 per cent. This is just double the mortality, which prevailed in 1826 to 1835, being then only 2.13 per cent. The lowest mortality in any

* Amer. Journ. of Med. Sciences, April 1841.

single year was 407, or 1 in 38, in 1763; the highest 909, or 1 in 14, in 1730, and 1009, or 1 in 15, in 1752.

The mortality of the black, was much greater than that of the white population. In the first period mentioned in the table, it was as low as at any time. One in 18, or 5.64 per cent. of the black population, died, showing a difference of 2.56 per cent. as compared with the mortality of the whites. The highest mortality among the blacks was in 1725 to 1734, being 1 in 12, or 8.64 per cent. These are very striking facts, but are accounted for, in some measure, by the prevalence of the small-pox and other epidemics, which often visited the town at that time, and which seem to have been peculiarly fatal to the black population. In fact, the liability to death by this disease among the blacks, was about 50 per cent. greater than among the whites, when taken in the natural way; and more than three times as great, when taken by inoculation.

It appears from a table that the population of Boston was, in 1790—18,038, and in 1837, 80,325. The greatest increase of the population was from 1820 to 1825, being 14,983, equal to an annual increase of 6.92 per cent., or 1 in 14. The least increase was in 1825 to 1830, being only 1.06 per cent. annually. The whole increase from 1790 to 1837, was 445.3 per cent., or doubling the first mentioned number about 4½ times. There were 201 square yards to each inhabitant in 1790, and 49 in 1837, being an increased density of 5 to 1.

The proportion of white to coloured population has been about the same at each of the enumerations, excepting the last two, when the whites had increased, as will appear from the following statement:

Proportion.	In 1790.	In 1800.	In 1810.	In 1820.	In 1825.	In 1830.
Of whites,	95.78	95.30	95.60	95.98	96.71	96.95
Of coloured,	4.22	4.70	4.40	4.02	3.29	3.05
	100.00	100.00	100.00	100.00	100.00	100.00

This shows that in 1790, of the whole population, 95.78 per cent. were white, and the remainder 4.22, were coloured. In 1830, the proportion of whites had increased, and the coloured decreased, 1.17 per cent.

From a mortality table, it appears that the least in one year was in 1827, being 939, one in 63, or 1.57 per cent., and the greatest in 1821, being 1,321, one in 35, or 2.85 per cent. The average annual deaths were 813, from 1811 to 1830—one in 47, or 2.09 per cent., 1147 from 1821 to 1830—one in 49, or 2.05 per cent., and 1,552 from 1831 to 1839—one in 46, or 2.14 per cent. showing a small increase in the force of mortality.

The value of life would seem to have materially increased in Boston. Nearly 100 years ago there was 1 death to about 30 or 35, or 3 per cent. of the population. Now according to table IV. there is 1 in about 45, or 2.10 per cent. of the population. This shows a very great improvement in the relative value of life.

Mr. Shattuck gives a table showing the population of Boston for 1830, the deaths for 10 years, 1826 to 1835, and the proportion of the annual deaths to 100 constantly living in Boston and Carlisle. From this table it appears that the proportion of deaths to the living is greater in Carlisle than in Boston under the age of 20, and between the ages of 80 and 90. At the other ages it is greater in Boston. Between the ages of 50 and 60, and 90 and 100, there is the greatest difference, being in the former 1.23, and in the latter 2.32. The mean of all ages is 2.13 per cent. in Boston and 2.50 per cent. in Carlisle, showing a difference of .37 in favour of the former. This presents the law of mortality in Boston, as accurately as it could be done from any data at present existing. It is, however, difficult, if not impossible, to determine it with perfect precision by any general statement concerning a population so changeable as that of Boston.

Mr. Shattuck compares the relative mortality of the different periods, 1811 to 1820, 1821 to 1830, and 1831 to 1839. This comparison presents some very striking facts, and shows that, although the average value of life is greater now than during the last century, it is not so great as it was twenty years ago; that it was at its maximum in 1811 to 1820, and that it has since somewhat decreased. It appears that 33.64 per cent. of the deaths in 1811 to 1820 were under 5 years of age, 37.04 per cent. in 1821 to 1830, and that 43.09 per cent. in 1831 to 1839, showing a gradual increase of the relative mortality under that age, and between the first and the last given period, a difference of 9.45 per cent. or a proportional increase of mortality of 28 per cent.!

It is a melancholy fact, and one which should arrest the attention of all, that 43 per cent. or nearly half of all the deaths which have taken place in Boston during the last nine years, are of persons under 5 years of age; and the proportional mortality of this age has been increasing.

The causes of this increasing and alarming mortality should be investigated, and, if possible, removed. More luxury and effeminacy in both sexes prevail now than formerly; and this may have had some influence in producing constitutional debility, and the consequent feeble health of children. The nursing and feeding of children with improper food is another cause. The influence of bad air in confined, badly located, and filthy houses, is another and perhaps the greatest. Epidemic diseases which are particularly prevalent among children have increased. It will hereafter be shown that scarlet fever has prevailed very much the last nine years, and has increased the mortality. In the period 1811 to 1820, this disease produced 13 per 1000 of the whole deaths. In 1831 to 1839, it produced 489. Other infantile diseases have also increased. These considerations would, perhaps, sufficiently account for the increased mortality under 5 years of age.

Mortality of Different Sexes.—From tables, it appears that there were 180 more female than male deaths in 1811 to 1820; 424 in 1821 to 1830, and 341 in 1831 to 1839. There were four years in the first period, and three in the last only, when there were more male than female deaths. The proportion of the different sexes will appear from the following statement.

		Deaths.		Average. Proportion.			
1811 to 1820	Males	4156	415	51.11	as 100	or 104.59	
	Females	3976	397	48.89	to 95.66	100.	
	Total,	8132	813	100.00			
1821 to 1830	Males	5947	594	51.85	as 100	or 107.67	
	Females	5523	553	48.15	to 92.87	100	
	Total,	11470	1147	100.00			
1831 to 1839	Males	7457	828	51.17	as 100	or 104.79	
	Females	7116	790	48.83	to 95.42	100	
	Total,	14573	1618	100.00			

The proportion of male and female deaths to the population in the years when the census was taken, was as follows:—

		One in		Excess.	Proportion per cent.		Excess.
1820	Males 41	Females 44	3		Males 2.41	Females 2.27	14
1825	" 41	" 43	2	"	2.32	" 2.27	5
1830	" 54	" 65	11	"	1.83	" 1.52	31
1835	" 39	" 48	9	"	2.54	" 2.07	47

This statement shows that the agents of death are uniformly more active with male than female life.

From another table, it appears that at the ages under 10 years, and between 30 and 60, more males than females die, the proportion rising in 40 to 50, as 56.99 to 43.01 per cent. At the other periods specified there are less male than female deaths; the difference after the age of 60 continually increasing, until 90 to 100, when it was as 27.18 to 72.82 per cent. But it is certain that there were a greater number of males than females at any age among the living population. A comparison of these with the deaths will show that at certain ages a greater proportional mortality prevails among males, and at other ages among females.

Mortality of the different Seasons of the Year.—It appears that the months of August, September, and October, have the highest mortality. December is number 4 in each period; November 5 in the last, and 6 in the others. June has uniformly the least mortality. If the proportions are arranged according to the seasons of the year, they will be as follows:—

	1811-1820.	1821-1830.	1831-1839.
Winter....	2.801	2.775	3.000
Spring....	2.842	2.825	2.622
Summer..	2.807	2.996	2.800
Autumn..	3.550	4.434	4.578
	<hr/> 12,000	<hr/> 12,000	<hr/> 12,000

Mr. Shattuck has endeavoured to arrange the facts for one period, 1821-1830, to ascertain what influence the seasons have upon the mortality of different ages. He has given the whole deaths during the time, the mean or average of each month at each age, and the difference from this mean, placing the sign minus, when the mortality of the month at any age was less, and plus when it was greater, than this mean. The table itself is too long for us, but the following abstract will be intelligible.

	Under 20 years.	20 to 60.	60 and upwards.
Spring.....	— 205.50	+ 43.75	— 3.
Summer....	+ 56.50	+ 62.75	— 49
Autumn....	+ 366.50	+ 70.75	+ 10
Winter.....	— 222.50	— 35.75	+ 52

From this statement it appears that the seasons have the greatest influence on the mortality of persons under the age of 20 and over that of 60—the summer and autumn being most fatal with the former, and winter with the latter. This is the only general law we can deduce from the tables.

The Still-born.—The proportion of the still-born to the whole burials was 1.82 per cent. in the second, and .65 per cent. in the third period, more than in the first. By table VIII. it appears that the month producing the highest proportion was August, and that March was the next highest. There appears, however, to be less variation, in regard to the seasons, in these than in the other deaths.

Diseases.—The mortality tables of Boston would appear to be defective to a very great degree, in regard to the particular cause of death. Mr. Shattuck makes the following sensible remarks:—

“It has been considered sufficient by many writers on this subject to prepare the tables, so as to exhibit the number of the deaths by each disease for certain definite periods of time given. But this information appears to fall short of the result which ought to be presented in such tables. To render them useful, a com-

parison should be made between the number of deaths by each disease, and the whole number of deaths in a certain given period, and this result should be again compared with a similar result concerning other periods. In this way the prevalence of any particular disease compared with that of other diseases at the same period, and with same diseases at different periods, may be at once seen, and a judgment formed from the per centage what proportion of deaths that particular disease occasions, and whether it be on the increase or decrease. The sex, age, and place of nativity of the diseased, and the season of the year in which the deaths occurred, are not stated in connection with the diseases in our printed tables, but they should be. The fatality of disease depends much on the age of the patients, and it is not the same in childhood, manhood, and old age, nor with the different sexes, and in the different months of the year. It is very important to know all such facts in relation to each disease, and the danger that man has to encounter in all ages, and under all circumstances. It would also be important, if practicable, to know the number of deaths by each disease in proportion to the population, distinguishing them according to their ages. When facts like these are known they will lead to inquiries into the causes, which have produced an increase or diminution of disease, under different circumstances, and lead to the adoption of the proper remedies."

Mr. Shattuck divides the years from 1811 to 1839 inclusive, into three periods, the first from 1811 to 1820, the second from 1820 to 1830, and the third from 1830 to 1839 inclusive.

Fevers.—The deaths by fevers of all kinds were 749, 604, and 721, or 88.4, 52.7, and 49.5 per 1000 of the whole deaths in the respective periods, showing a decrease of 35.7 in the second, and 3.2 in the third. By looking at the different fevers in the tables it will be perceived, that typhus has produced the greatest number of deaths, but still it has very much decreased; being 623, 458, and 611, or 73.5, 39.9 and 41.9 per 1000, showing the last eight years a small increase on the previous 10, but not more than half the proportion of the period 1811 to 1820. The greatest number in one year was 119, in 1818. Ten cases of yellow fever occurred in 1816. There is evidently an error in the numerical statement relating to the third period.

Eruptive Fevers.—The diseases of this class occur very irregularly. They have, however, increased. There occurred 64, 402, and 1402, or 7.5, 35.1, and 96.2 per 1000 in the respective periods, the last period showing more than 13 times the mortality of the first. Each of the diseases, excepting *thrush*, shows an increased mortality. *Erysipelas* has increased from 1, in the first, to 65 in the last period. *Measles* was very fatal in 1821, 1825, 1829, 1832, and particularly in 1835, when 188 died of this disease: 28, 332, and 340, or 3.3, 28.9, and 23.1 per 1000 of the whole deaths occurred from this disease in the respective periods. Cases of scarlatina have increased since 1821 to 1830, from 13 to 489! It has become one of the most fatal of the eruptive fevers. The suddenness of its attack, the irregular mode of its operation, and its generally fatal termination, has rendered it one of the diseases most to be dreaded. The greatest number in one year was in 1839, when 222 died. The next greatest was 200 in 1832. To the prevalence of this disease may be attributed, in some measure, the increased mortality of children under five years of age. The recorded cases of *Small-pox* have been principally at the quarantine establishment at Rainsford Island. It never prevailed in the city, as an epidemic, during the period under review, until the autumn of 1839. It then spread generally through the city, and produced 60 deaths before the close of the year.

A table is given of the mortality in the different periods from cholera, croup, dysentery, and hooping-cough. That of all has been upon the increase.

Diseases.	1811—1820.		1821—1830.		1831—1839.	
	Number.	Ratio per 1000.	Number.	Ratio per 1000.	Number.	Ratio per 1000.
Cholera,	122	14.4	149	12.9	407	27.9
Croup,	43	5.	245	21.3	376	25.9
Dysentery,	115	13.5	429	37.4	372	25.5
Hooping Cough, 78	9.2		184	16.0	256	17.5

The total of this class of diseases was 380, 1031, and 1499, or 44.9, 89.9, and 102.9 per 1000 in the respective periods.

Diseases of the Nervous System.—It appears that the whole of the diseases of this class have been 562,980, and 1515, or 66.4, 85.4, and 104. per 1000 in the different periods, showing a slight increase. The entries under each class, excepting epilepsy, insanity, and tetanus, also show an increase. *Insanity* has not appeared to increase, though some allowance should be made for the patients afflicted with this disease, who go to the Lunatic Asylums at Worcester and Charlestown, and sometimes die there. If these were considered in our reports they would probably show a different result, and a slight increase of the disease. The following statement shows the proportional prevalence of the three principal diseases of this class.

Diseases.	1811—1820.		1821—1830.		1831—1839.	
	Number	Ratio per 1000	Number	Ratio per 1000	Number	Ratio per 1000
Apoplexy,	109	12.8	107	9.3	162	11.1
Convulsions,	229	27.	309	26.9	419	28.7
Hydrocephalus,	86	10.1	270	23.6	498	34.1

Diseases of the Organs of Respiration.—In the different periods under consideration, 2460, 2802, and 3214 deaths, or 290.5, 244.8, and 220.5 per 1000, were caused by this class of diseases. This indicates a decrease of 70 per 1000 from the first to the last period. The following table will show the comparative prevalence of the principal diseases:

	1811—1820.		1821—1830.		1831—1839.	
	Number cases	Ratio per 1000	Number cases	Ratio per 1000	Number cases	Ratio per 1000
Pleurisy,	35	4.1	40	3.4	83	5.7
Phthisis,	1891	223.3	2054	179.	2066	141.7
Pneumonia,	436	51.4	580	50.5	937	64.2

The leading disease of this class, and indeed of all classes, is phthisis, or consumption. From these tables it appears to have decreased over one-third from the first to the last period. Entire reliance, however, should not be placed on this statement. There is so much indefiniteness in the application of the term *consumption*, as well as many other terms in our bills, that it should be regarded only as an approximation to the truth. The more accurate diagnosis recently observed has probably given a different classification to many cases, from that assigned to them in the first period. Consumption is, however, a most formidable disease, not in Boston peculiarly, but in all cities and country towns. Sufficient facts are known to show, that from *one-fourth* to *one-seventh* of all the deaths in the Northern and Middle states, and perhaps throughout the whole Union, and the civilized world, are caused by consumption. Mr. Shattuck justly observes, that the only chance of materially diminishing the fatality of this malady is by making the people acquainted with the causes of it, and instructing them in measures of prevention.

Diseases of the Organs of Circulation.—These diseases have increased, being 22, 81, and 191, or 2.5, 7. and 13.1 per 1000. Of the whole of this class

24, 90, and 200, or 2.9, 7.9, and 13.7 per 1000 occurred in the different periods.

Diseases of the Digestive Organs.—The following statement will show the comparative prevalence of some of the principal diseases of this class :

	1811—1820.		1821—1830.		1831—1839.	
	Number cases	Ratio per 1000	Number cases	Ratio per 1000	Number cases	Ratio per 1000
Enteritis,	6	.7	162	14.1	320	21.9
Teething,	39	4.6	83	7.2	247	16.9
Worms,	21	2.5	26	2.2	51	3.5

Most of the other diseases specified have decreased, excepting those of the liver, and the other organs mentioned under the general head, and included under *Disease*. These have greatly increased. The whole number of cases were 231, 644, and 1107, or 27.3, 56.1, and 76, in the different periods.

Of the Urinary Organs—Kidneys, Ureters, Bladder, Urethra.—Under *Stone* are included all who died of stone or gravel. In the first period there died of this disease 1 in 1411 of all diseases, in the second 1 in 546, and in the third 1 in 2082. Of all the diseases of this class 9, 30, and 22, or 1.1, 2.6, and 1.5 per 1000 occurred in the respective periods.

Of the Organs of Generation.—Under *Childbed* are included cases of "puerperal fever," 63, 121, and 175, or 7.4, 10.5, and 12. per 1000, in the respective periods, occurred by this disease; and 64, 132, and 192, or 7.6, 11.5, and 13.3 per 1000 of the whole deaths of this class.

We pass over diseases of more vague determination, trusting that a better system of registration will progressively diminish these in all countries. Mr. Shattuck adds :—

"From this view of the causes of death in Boston it appears that 1193, 9037, and 3622 cases, or 140.8, 177.7, and 248.6 per 1000 of all the deaths were from epidemic, endemic, and contagious diseases; and that 7275, 9433, and 10951 cases, or 859.2, 822.3, and 751.4 per 1000 of all the deaths were from sporadic diseases. This shows an increase of the first, and a decrease of the second division of diseases, in the respective periods. If, as has been stated, the great criterion of health is the comparative prevalence of one or the other of these two great divisions of diseases, it follows that Boston is not now quite as healthy as it was twenty or thirty years ago. This fact, I think, may be inferred also from other investigations given in this article."

We are glad to perceive that our transatlantic brethren are taking up the subject of vital statistics. Nothing is more calculated to advance our knowledge of the great causes of disease, of the circumstances that affect the public health, of the means to be taken to improve it, and to force these important questions on the attention of the legislature and the executive.

GUY'S HOSPITAL.

CLINICAL OBSERVATIONS BY MR. MORGAN.*

1. *The Nockemorphs of Guy's.*

Be careful what you say respecting the nature and treatment of a patient's

* Prov. Med. and Surg. Journ. April 10, 1841.

case, either in his presence, in the presence of his relations, friends, or attendants; or under any circumstances which may make him or them acquainted with what it is quite unnecessary for them to know. Ever be careful of eavesdroppers. Now do not mistake me. The truth—nothing but the truth—ought always to be spoken, but there is a time and a place for all things, and it is not always necessary to speak the *whole* truth to patients. Deception is always despicable; but, for the welfare of our patients, concealment is sometimes necessary. The concealment to which I allude is neither criminal nor improper—it consists in avoiding the abuse of that unruly member, the tongue. Now I will illustrate and explain what I mean to insist upon. In the room set apart, in this noble institution, for those who are anxious to become our patients here, on our taking-in days, you will all of you have free access to them before they are seen by the medical officers. Now you may interchange thoughts and opinions in the *hearing* of those applicants for relief, which are not only improper, but injurious to the interests not only of them but of yourselves. Often and often has a patient been driven from the “taking-in” room of a hospital, from having heard the tittle-tattle of medical students in reference to his case. If the case be an urgent one, is not this injurious to the welfare of the listener? But whether urgent or not, we are liable to the loss of the opportunity of showing you the treatment of disease, either by local or constitutional means, by the very great imprudence I am alluding to. Is not this injurious to your interests as well as theirs? Let me illustrate what I mean by one or two examples. A patient, in one of our wards, labouring under serious disease, was asked by one of the pupils where he came from. He replied, from Wisbeach, “O,” said the pupil, “my good fellow, you will never see Wisbeach again;” and this had such an effect upon him that he immediately left the hospital. Let us take another instance from the taking-in room. A delicate, hysterical female presents herself, with a small tumor in the breast, which she wishes to have removed by the most lenient measures—as she herself would say *dispersed*. Now, this is what is commonly considered as an interesting case, and a group of pupils collects around the patient. The dresser of Mr. A. examines the breast, and says, “O! here is a nice case for operation. Two semi-elliptical incisions, embracing the whole surface, and then cleanly dissected out.” “No,” says a pupil of Mr. B., “it would be done much better by a crucial incision, and dissecting back the flaps. B. always takes away the whole of the breast, but generally leaves the nipple.” Another young gentleman observes, “That’s a case for C., he stands at nothing; he’d have it out in a minute, root and branch;” and the poor girl, now thoroughly frightened, hurries away from the tender mercies with which she is threatened, as horrible in her imagination as the tortures of the Spanish Inquisition.

2. *Never tell a Man you mean to give him Pain.*

Surgeons are sometimes equally in error with their pupils, and communicate to their patients what mere patients have no business to know, until they have found it out themselves. There can be no necessity for telling a subject for operation, that you are going to give him pain; common sense will teach him this. Let him know when you are going to commence an operation, and encourage him to bear it firmly; but do not remind him of what he has to undergo. It can do no good, and may possibly unnerve a strength of mind and body previously wound up to the sticking point. I remember an Irishman, who had a fracture of his frontal bone with depression, but no very urgent symptoms had then supervened. He was brought into the operating theatre, for the purpose of being trephined to raise the depressed portion of bone, and Mr. Cline, who was constantly in the habit of preparing his patients for the knife in the manner I have been deprecating, said, “Now, my good fellow, you must be firm, very firm, for I am about to give you a very great deal of pain.” When the Irish-

man leaped from the table, exclaiming, "Och! by Jasus, but you won't though;" rushed from the theatre, and was never seen in the hospital again.

We certainly think that Mr. Cline was rather *green* in telling the man that he should give him a good deal of pain. The common address is—"Now, my good fellow, I'm going to give you a *little* pain." But if a man is inclined to run away, he is as likely to bolt when he is told you are going to begin, in one way as in another.

3. *Mind what you are about in Consultations.*

A very moral young gentleman had been undergoing some violent exertion by which he had strained the interior of the walls of the abdomen. He complained of a good deal of stiffness and pain above the pubes, and the apothecary whom he consulted ordered leeches, followed by fomentations and poultices. There were only the mother and an old nurse in the house with the youth, and they became naturally suspicious at leeches and poultices to a part which they were not allowed to examine. Mr. Hunter was called in, and the nurse, who was very curious to determine exactly how matters stood, applied her ear to the door, and overheard him telling the apothecary that there was a severe strain of the abdominal muscles. She directly ran to her mistress, "O marm, its just as I thought!" "Why, what's the matter?" "O marm, Master Thomas has been and strained his abominable muscle!" (loud laughter.) I may give you an instance also to show how cautious you should be in your manner of speaking before your patient as to the nature of his disease. A patient of Dr. Babington, who had some very obscure abdominal swelling, saw that considerable doubt was entertained as to the precise disease under which he laboured, and consulted one of my colleagues. He saw Dr. Babington some time afterwards, and said, "O, sir, I wish I had consulted Mr. ——— sooner. He saw directly what was the matter." "Why," replied the Doctor, "what did Mr. ——— say it was?" "O, sir, why he said directly it was a *tumour*." So you see, gentlemen, how much may be gained by a few generalities in your professional consultations; but I repeat, be careful in speaking before your patients—few have had occasion to repent having said too little—many of having said too much.

CASES FROM THE EARLY NOTE BOOKS OF SIR ASTLEY COOPER.*

1. *Salt-water Poultice.*

This poultice is an excellent application where absorption of extravasated matter is required, or when it is wished to occasion an abundant discharge, to quicken the action of a deep-seated abscess. Miss ——— bruised the middle and fore-part of the leg, occasioning a large ecchymosis and a small sore. The inflammation of this sore spread to the ecchymosed part, which suppurated, though slowly and imperfectly. Tired of their first surgeon, as she had been confined for three months, I was sent for. A small sore at this time appeared on the shin, and a swelling on the outside of the leg, on pressing which, matter was discharged at the sore.

I ordered her a salt-water poultice, a table-spoonful to a pint. In three days the swelling was lessened, but the discharge increased. I then ordered two table-spoonfuls of salt to a pint of water, and in two days the swelling was gone, and the discharge had nearly ceased.

The first proportion was then ordered, and it rapidly filled up and healed.

We cannot say that we are so fond of salt-water poultices. We have seen

* Provincial Med. and Surg. Journal, August, 1841.

them give rise to much irritation, and convert a trifling ulcer into a troublesome one. This has happened several times within our observation in cases of ulcers connected with scrofulous glands.

2. *Want of Synovia.*

A servant of Mr. —, Queen Street, had a stiffness come on in both her knees, without any visible external appearances of disease. The bones grated upon moving them over each other in the joint, and if she used her legs she complained that considerable heat was occasioned by it. No application was of any service to her.

3. *Imperforate Jejunum.*

A child was born apparently healthy, but was found to reject, in a few minutes, everything that it took into its stomach. A bougie was passed into its rectum, and I found no obstruction. It was ordered castor oil and various other purgatives, which almost immediately were returned. It wasted away rapidly, and died twelve days after its birth.

Dissection.—I opened it on the day of its death. On cutting into the abdomen, an intestine of great size presented itself—two inches in diameter—which was found to be imperforate. It was the jejunum, which had this blind extremity; it was placed about ten inches from the origin of that portion of the intestines.

The portion of gut, naturally next to this, but still in this infant entirely separate from it, was not larger than small whipcord; and this, after passing six inches, was obstructed in the same manner. The lower part of the ilium and the large intestines, which were without disease, were, however, not larger than a goose-quill, from having never been distended. The gall-bladder was quite empty, but the imperforate intestine was full of bile and medicine.

CLINICAL REMARKS OF M. ANDRAL ON FEVER AND INFLAMMATION.*

1. *State of the Blood in Symptomatic and Idiopathic Fever.*

1st. If the fever be symptomatic of inflammation, the quantity of fibrin is augmented; but this increase does not depend on the fever, for there are several fevers, just as intense and long continued as the inflammatory, in which we observe no increase of fibrin; the cause of the increased quantity of fibrin is not easily discovered, and to assign any particular one, in the present state of our knowledge, would be hasty.

2nd. When the fever does not depend on inflammation, we have no augmentation of fibrin, be it ever so severe or prolonged.

3rd. Should simple fever become complicated, during its course, with any inflammatory affection, then the fibrin increases.

4th. Fever and inflammation may co-exist, the latter being an essential element of the former, as inflammation of the skin in small-pox, measles, scarlatina, &c.; these affections of the skin, which perhaps should not be ranged under inflammations, are unattended with the characteristic increase of fibrin; the same remark applies to ulceration of the intestines in typhoid fever; however tenaciously some physicians may adhere to the inflammatory doctrine of typhoid fever, it is certain that the ulcerations of the intestinal glands are not accompanied by that increase of fibrin which attends other inflammatory diseases. Hence, whenever fever co-exists with inflammation, and together with it constitutes one of

* Prov. Med. and Surg. Journal, Aug. 1841.

the elements of the disease, the fibrin of the blood is not increased; for example, small-pox, typhoid fever, &c. But it is far different when inflammation springs up during the course of the fever, or is one of its effects.

In a certain class of fevers, the chief cause seems to be the excessive richness of the blood. Inflammatory fevers, of a few days' duration, depend upon this cause.

This richness consists in an increase of the globules, not of the fibrin. The same increase occurs at the commencement of typhoid fever, measles, and scarlatina. We do not find this augmentation of globules in inflammation; it exists in the middle period of fevers.

In continued fevers, the febrile movement persists even when the globules have fallen to their normal standard, or below it. M. Andral instances chlorosis.

Fever may exist with a normal state, increase, or diminution of the globules. We find that the simple presence of fever never determines an increase in the quantity of fibrin; that fever may exist; 1st, when both fibrin and globules are in normal quantity; 2nd, when the globules alone are increased, the fibrin remaining unchanged. The quantity of fibrin may fall, during typhoid fever, even so low as 0.9; at an early stage of the disease, or when it is mild, the fibrin remains unchanged, but falls as the fever is aggravated; when it assumes an ataxic character, and symptoms of prostration ensue about the fifteenth day, the fibrin also falls; but this is not the case with inflammation.

2. *State of the Blood in Inflammation.*

The condition of the blood in inflammation differs according as the latter is acute, subacute, or chronic.

Fibrin.—The fibrin is always increased during inflammation; it may vary from 4 to 10.

Globules.—These are not necessarily augmented; generally speaking, they retain their normal standard; in rare cases are increased; in others diminished. As the inflammation advances the globules may fall, but this is the effect of blood-letting and abstinence. We have already seen that plethoric persons are not more disposed than others to inflammation.

Solid contents of serum.—The albumen may be increased, but not necessarily, and the inflammation may attain a very high degree of intensity, without augmentation of the serum.

Physical properties.—The clot is generally very firm and tenacious, because the fibrin has expelled a great portion of the serum; in fever, on the contrary, the serum is retained, and renders the clot soft and voluminous. In inflammation the clot is small: for as it contains a large proportion of fibrin, the globules are firmly pressed together by the contraction of the coagulating part of the blood.

3. *Nature of False Membranes and Pus.*

Whenever inflammation terminates in suppuration, the quantity of fibrin increases; hence, the formation of pus and augmentation of fibrin accompany one another; we might, indeed, add another phenomenon, viz. the formation of false membranes. The fibrin is also augmented in cases where the serum is turbid and mixed with flocci; on analysing false membranes they are found to be composed of fibrin, and this is confirmed by a comparison of false membranes with the buffy coat of the blood, to which they bear a perfect resemblance.

Pus is a compound fluid, the composition of which is not yet accurately known; we are unable to assert that it is formed of fibrin, but in certain kinds of pus we find a white substance analogous to fibrin.

BETHLEM HOSPITAL.

REPORT OF SIR ALEXANDER MORISON—PATHOLOGY OF INSANITY.

This Report furnishes an account of the post-mortem appearances presented by the patients who died in the hospital during the last five years. The number of deaths amongst the females was nineteen; amongst the males, twelve.

Morbid Appearances in Females.

Case 1.—No deviation from the normal condition of the brain and membranes observed except congestion of the blood-vessels, both external and internal; the cerebral substance, the ventricles, and the arachnoid, were perfectly healthy. The left lung was hepatized, and marks of disease were observed in the chest and abdomen.

Case 7.—The blood-vessels of the brain and membranes turgid; the cellular texture of the pia mater on the convexities of the cerebral hemispheres largely infiltrated; the fluid in the lateral ventricles increased in quantity; there was much fluid in the cranium after the brain had been removed.

Case 8.—The convolutions of the cerebral hemispheres were partially flattened; the blood-vessels of the brain and membranes were loaded; when the dura mater was divided and detached, the subjacent membranes exhibited three or four small patches of a bright yellow discoloration, but no fluid could be squeezed out of them; the cut surfaces of the cerebral substance everywhere exhibited numerous bloody points; the lateral ventricles were distended with about two ounces of turbid fluid in each; there was thick yellow pus, about one or two tea-spoonfuls, in the bottom of the reflected horns of each ventricle; the lining membrane of the ventricles exhibited vascular ramifications and minute ecchymoses, and the arachnoid coat covering the pons varolii and neighbouring parts of the brain was thickened and opaque, and of a light yellow colour from purulent infiltration; the substance of the brain was soft, particularly around the ventricles and at the basis. The cause of these appearances is conceived by Mr. Lawrence, to whom I am indebted for the description of the morbid appearances, to have been acute inflammation of the lining membrane of the ventricles and of the arachnoid coat.

Case 15.—Much blood escaped on dividing the integuments and sawing the skull, and the vessels of the brain and membranes were enlarged. Five or six quarts of fluid of a reddish colour were contained in the chest.

Case 17.—The blood-vessels of the brain and membranes were turgid; in other respects the contents of the cranium appeared healthy; marks of inflammation were visible in the pleura, in the cavity of which bloody fluid was contained.

Case 18.—A large quantity of blood escaped from the vessels of the head in cutting the skin and sawing through the skull; the vessels of the brain were moderately injected, and there was slight serous infiltration of the pia mater; in other respects the contents of the cranium were perfectly healthy, as also those of the thorax and abdomen.

Case 19.—In this case there was general fulness of the blood-vessels; sections of the cerebral substance everywhere exhibiting numerous divided orifices; there was serous infiltration of the pia mater; at some points of the cerebral hemispheres the convolutions were shrunk so as to leave conspicuous intervals, which were occupied by the infiltrated pia mater; the substance of the brain appeared to be healthy and firm; the trachea and larynx, the contents of the chest, and of the abdomen, were all perfectly healthy, exhibiting no appearance to throw any light on the very sudden death of this patient, which it was imagined might have proceeded from an affection of the heart or some large blood-vessel.

Morbid Appearances in Males.

Case 3.—Remarkable turgidity of the blood-vessels, in the substance of the brain especially; the superior longitudinal sinus filled with a coagulum firmly adhering to its sides like a recent clot, at two or three points gradually changed into a dull reddish brown fluid, of the consistence of pus; a large vein about the middle of each hemisphere greatly distended, and filled with a fine coagulum, presenting at some points a similar fluid; this vein terminated at each side in the cavernous sinus; other veins were filled with firm coagula; a considerable ecchymosis of the pia mater, and slight infiltration of that coat. The lungs were in parts hepatized, and contained an abscess.

Case 5.—Blood-vessels of the brain and membranes turgid; numerous bloody points in the cerebral substance, and the medullary matter presenting here and there a faint violet tint; slight serous infiltration of the pia mater in the cerebral hemispheres; about an ounce of clear fluid in each lateral ventricle. The lungs were diseased.

Case 6.—The blood-vessels of the brain and membranes extremely turgid; the cellular texture of the pia mater in a state of serous infiltration over the entire upper and lateral surfaces of the cerebral hemispheres; the lateral ventricles contained rather more than the normal quantity of fluid, and there was much fluid in the basis of the skull. Extensive hepatization, with a large abscess in the lungs.

Case 7.—The arachnoid coat somewhat thickened and opake, and the pia mater considerably infiltrated over the cerebral hemispheres: the lateral ventricles enlarged, and filled with transparent fluid; a considerable quantity of fluid in the basis of the skull; no deviation from the healthy state observed in the substance of the brain.

Case 8.—The blood-vessels of the brain and membranes turgid; numerous bloody points appeared in every situation; the arachnoid coat thickened and partially opake, especially along the edges of the fissure between the cerebral hemispheres; the cellular substance of the pia mater in the hemispheres considerably infiltrated. The structure of the brain appeared natural.

The mucous membrane of the trachea and bronchii of a bright red, and covered with a thick yellow secretion; the lungs adhered to the sides in several places; contained an abscess and an enlarged bronchial gland containing a substance like putty.

Case 10.—The blood-vessels of the brain and membranes were turgid; the arachnoid coat on the cerebral hemispheres was considerably thickened and opake; there was great infiltration of the pia mater, and an increased quantity of fluid in the ventricles.

CLINICAL REMARKS OF M. VELPEAU.*

1. *Cause of Metastatic Abscesses.*

On one point, however, authors are not well agreed; and that is the manner in which the pus becomes mixed with the blood. Marechal, Legallois, Rochour, and others, think that it may be explained by venous absorption from the surface of wounds; others, as Dance, Blandin, Arnott, &c., assert that the presence of pus is always preceded by inflammation of the veins, which produces the matter found in the circulation or tissue of organs after death; according to the latter authorities, pus cannot be transported from one part of the body to another without undergoing decomposition. Hence, gentlemen, we have two theories of

* Provincial Medical Journal, Aug. 14, 1841.

metastatic abscess: one consisting in simple absorption from the surface of wounds; the other in inflammation of the veins. For my part, I feel convinced that inflammation of the vein does not constantly exist, but that the affection may be produced either as a consequence of phlebitis or of simple absorption. I perfectly agree with Dance, Berard, and Blandin, as to the pernicious effects of phlebitis on the blood; but I differ from them completely in this, that I do not admit phlebitis to be the primitive or even frequent cause of metastatic abscess; the veins, it is true, are frequently inflamed, and may, in certain cases, be the cause of purulent absorption; but in many others we have no inflammation of the veins, and the pus may be introduced into the torrent of the circulation either by the lymphatics, the veins which open on the wound, or by imbibition. How often have I found large collections of pus in the viscera, without being able to detect the slightest trace of inflammation in any part of the venous system? Upon this point I am positive, having determined it so frequently by the most careful examination.

2. *Metastatic Abscess not always fatal.*

We must not, however, completely despair of saving the patient; for when the unfavourable symptoms last for two or three days only, or when they terminate in some crisis by the urine, general perspiration, &c., and the febrile symptoms subside, some hope is left; I have seen several patients recover under these circumstances; however, we must allow that such cases are very rare.

3. *M. Velpeau's Treatment of Metastatic Abscess.*

Endeavour, in the first place, to determine the fluids towards the wound by large poultices; at the same time apply blisters on the legs or thighs; give some diuretic tisan internally; if the patient be young and robust, the pulse full and strong, then bleed; if he complain of severe pain in the chest or abdomen, apply some leeches or cupping-glasses. Should the wound present a dry, unhealthy aspect, you may employ a bark lotion, or in certain cases apply leeches, or scarify it, or put on a blister; these means are particularly indicated when you have any reason to suspect the existence of phlebitis. You may also envelop the limb in a bandage from the wound towards the trunk, so as to exercise powerful compression; purgatives, also, should be employed in addition to the means now pointed out. Should stupor, with meteorismus and dark incrustation of the mouth exist, you may try tartar emetic in high doses. When the patient is very feeble, give the bark or the sulphate of quinine, especially in cases where the symptoms are intermittent. Of the local means, there is none in which I have so much confidence as the bandage, if applied before the pus has found its way in any quantity into the circulation. In inflammation of the veins of the extremities, when the disease has not ascended beyond the venous radicles, and before the formation of metastatic abscess, we can almost always arrest it by the bandage; even when the blood has been tainted, we may still employ it, because we thus cut off the source of the poison, and give the vital powers a chance of overcoming the malady.

We confess that we feel doubtful, at all events in many cases, of the propriety of compression. In a large proportion of instances the primary injury scarcely admits of *such* compression as *can cut off* the entrance of the pus into the circulation; and if it is not cut off, we are unable to see what is gained. Metastatic abscess follows compound fractures of the lower limbs as frequently as any other local lesion. How is compression to prevent the entrance of pus into the veins and absorbents? How indeed is it to do so in any case, for compression which should go to that extent must do infinite mischief to the part.

The remedy from which we have seen most service has been blistering. A very bad case did well under the application of repeated blisters, and in another case the abscesses disappeared with a large deposition of purulent matter in the urine.

CONCLUSIONS OF M. CRUVEILHIER WITH REGARD TO THE SOUNDS OF THE HEART.

It seems, from some experiments which M. Cruveilhier made, that the two sounds of the heart arise at the roots of the aorta and pulmonary artery, and depend on the motions of the sigmoid valves; that the first sound which corresponds to contraction of the ventricles depends on the repression of the sigmoid valves; that the second sound, accompanying the dilatation of the ventricles, is caused by the spreading out or expansion of the same valves by the retrograde column of blood.

NATIVE GENERAL HOSPITAL OF BOMBAY.

ANNUAL REPORT FOR THE YEAR 1839.*

1. *Narcotine in Intermittent Fevers.*

A portion of narcotine, procured from Bengal, had a fair trial in thirteen cases, viz. five tertian and eight of the quotidian type, and only succeeded in three—one tertian and two quotidian. The remedy was given in an acid solution in ten grain doses at intervals of two hours for four times; in all of these cases, it even, where it succeeded, produced giddiness, nausea often followed by vomiting and great gastric uneasiness; and difficulty was often experienced in inducing patients to swallow this remedy, who took quinine most readily and without complaint. I think, I noticed that, even in the three successful cases, anorexia was present to a greater extent, and continued for a longer period than seemed likely to have been the case, had narcotine not been used for their cure; ten grain doses were had recourse to, from smaller having been found quite inefficacious. In three cases I gave the medicine in fifteen grain doses, but in all, the first dose was followed by great uneasiness at stomach, and the second was invariably followed by vomiting. Quinine cured all those cases, but in two of them, not till after a long period, and only in large doses (ten grains in each). I may remark that the narcotine was tried by Dr. O'Shaughnessy's test, and found by it, to be perfect.

2. *Small-pox after Vaccination.*

Cases of this disease occurring in parties unprotected by vaccination of unusually severe form, have been admitted in every month of the past year, excepting in January, February, and October. The greatest number of admissions and the smallest mortality occurred in March, when many recently attacked were admitted into hospital; but in the other months the cases received have been of the worst possible description, and always at advanced periods of the disease. A confluent rash, and great affection of the throat and head in most, and a copious but imperfectly developed rash in others, have been the most marked features of all the cases.

3. *Recovery from penetrating Wound of Thorax and Abdomen.*

The injuries were inflicted by a man upon his wife. Both blood and air escaped from the wounds of the chest, and a portion of the omentum (which was removed) had escaped from the abdomen; in addition she had a long deep wound at the angle of the jaw, her mouth laid open by another of the cheek, and eight other deep flesh wounds of the trunk and extremities; and yet has never had, after the first thirty-six hours, an unfavourable symptom, and has merely required the exhibition of anodynes, antimonials, and laxatives.

* Transactions of the Medical and Physical Society of Bombay.

4. *Traumatic Tetanus cured.*

The three cures were cases of traumatic tetanus, and in all salivation was produced, after which the symptoms gradually yielded. A case of severe opisthotonos from Guinea-worm, which had appeared at three different parts in the soles of the feet and legs, is now under cure. The patient was admitted on the 4th December, fifteen days after the first appearance of the tetanic symptoms, and in a state which seemed to preclude the possibility of his living many hours. A strong cathartic was given on admission, followed immediately afterwards by a five minim dose of hydrocyanic acid combined with tinct. opii 3ij. This seemed to give relief, and was soon repeated in an increased dose, and he at length took ten minims of the acid with 3ij. of tinct. opii four times a day with occasional purgatives, with the most marked benefit. He can now, 1st January, walk a little, has no rigidity of limbs, and only feels very weak. The acid has been intermitted, and he now only takes half a drachm of tinct. opii twice daily.

ANNUAL REPORT OF THE DISEASES IN THE JAIL AND DETACHMENT HOSPITALS AT RUTNAGHERY.

1. *Curious Course of a Bullet.*

A man was shot in the back near the angle of the ribs, the ball taking an oblique direction towards the spine: it could not be extracted, and he died, reduced to a skeleton, after being three months in hospital. From the curvature of the spine which took place to a great extent before death, it became evident that there was a loss of substance in the body of one or more of the vertebræ, and accordingly, on dissection, the ball was found to have passed through this part of the bony column, and was discovered lying behind the right kidney, much flattened and indented. The bodies of the two lower dorsal, and of the two upper lumbar vertebræ were almost entirely removed by the passage of the ball, and by subsequent caries and absorption. The escape of the aorta, and the spinal cord and its coverings in such an injury, was a singular feature of this case.

2. *Scurvy.*

The prisoners at Rutnagherry were subjected to unusually rigorous confinement, and the consequence was scurvy. Dr. Bourchier gives a good account of the symptoms.

The disease generally made its attack by a swollen and spongy state of the gums, which were more or less of a livid colour, and bled readily on being irritated; in many instances they extended in triangular processes between the teeth, or projected over them; the tongue sometimes, but not invariably, had an excoriated or fissured appearance near the tip; in seven cases, the mucous membrane of the cheek presented a similar appearance. The breath was generally fetid, and the face more or less puffed and swollen. The affection of the mouth was attended by various degrees of pain and swelling of the lower extremities, most frequently of the hams, in which hard tumors formed.

When the scorbutic diathesis was established, the mere pressure of the irons was apt to produce swelling and inflammation. In one or two cases, very acute pain was felt in the muscular parietes of the chest, unattended with swelling. Lind calls this "a dangerous symptom." It was observable that the greatest swelling was by no means attended with the greatest pain, the legs and ankles being often affected with an enlargement of a stony hardness, scarcely at all painful, and chiefly inconvenient by preventing the play of the muscles and action of the joints; whereas in a few cases the patients suffered most acutely from the slightest pressure on the lower extremities when scarcely at all swollen. In such, the parts had more of a shining appearance, and were much less rigid. The

affection of the mouth usually appeared first, but sometimes the scorbutic swellings of the limbs preceded it. The constitutional disturbance was not very considerable in the generality of cases, but lassitude and depression of spirits in various degrees, accompanied the local symptoms, and the countenance exhibited a degree of dejection more or less marked.

The most successful treatment consisted in the exhibition of tonics and cordials, including the bark in decoction and in powder, and particularly quinine. Vegetable acids, as limes and tamarinds, were very freely employed, in combination with "goor," or coarse sugar, in itself an excellent antiscorbutic. The local applications which were of most service, were washes and gargles of alum and decoction of bark, and the solution of chloride of lime, hot fomentations and friction (when the case admitted of it) with camphor liniment, or turpentine and oil, to the swellings on the limbs, and opiate plasters when the severe pain would admit of nothing else. With these measures, a more liberal diet than usual was allowed, and the general result was highly satisfactory.

Of the sixty-nine cases, three terminated fatally, two of them being old and debilitated subjects—the third was a robust man, who seemed improving, when he was suddenly attacked with extreme oppression at the chest, and died in a few hours in spite of every thing that could be done. Æther, camphor and opium, with a blister to the chest, gave temporary relief, but he died, after great suffering, with apparent symptoms of effusion on the chest.

Dr. Bouchier has tried, but without satisfactory results, the nitrate of potash. It failed in his hands.

3. *Inveterate Itch cured by Bichloride of Mercury.*

One inveterate case of vesicular itch, incurable by the ordinary means, yielded to a solution of the bichloride of mercury, in the proportion of $\mathfrak{z}\text{i}$. to a pint of water, without any unpleasant effects being occasioned by the remedy.

GUY'S HOSPITAL.

TREATMENT OF FISTULA LACHRYMALIS.*

In cases in which fistula lachrymalis is threatened, the great thing is to keep a free passage through the nasal duct. Mr. Morgan recommends the plan he has been in the habit of pursuing.

As a preventive measure, the mechanical removal of all impediment in the duct is as urgently called for, when the sac is simply distended by its contents in the onset, and before the part is acutely inflamed, as it is when an abscess has formed in that part, the bursting or opening of which affords the surgeon an opportunity of passing his probe with ease through its interior into the strictured canal. Now, gentlemen, I treat a case of stricture in the nasal duct upon the same principles, and nearly in the same manner, as I do a case of stricture in the urethra. In both cases, we find a contraction in the calibre of an excretory duct, resulting from the same cause, viz. an interstitial effusion of adhesive matter, the consequence of inflammation; and in both cases, the object we have in view is to dilate the stricture without lacerating, or in any way injuring, adjacent tissues. In cases of stricture in the urethra, we do not wait for an opportunity of passing an instrument through the contracted canal, till an abscess in the perineum brings us into immediate contact with the disease; nor do we cut down upon the membranous portion till other means have failed; and why should we wait for an abscess in the sac, or open that part through the integu-

* Prov. Med. Journ. Aug. 28, 1841.

ments of the face, with a view of dilating the nasal duct through its interior, when the same mode of treatment as that which we pursue for the cure of stricture in the urethra, is equally available for the cure of stricture in the ductus ad nasum? Through the orifice of this duct, where it enters the nose, a probe can by a practised hand be almost as readily carried through its canal to the stricture, as the bougie is passed through the orifice of the urethra to its membranous portion; and it is by availing ourselves of this mode of applying the mechanical means of remedy, that we shall be enabled to remove at once the greatest difficulty we have to contend with in the treatment of the diseases which I am now describing. The only objection which can be offered to the plan I now recommend to you, must, I should think, be the difficulty of passing the instrument; but this objection ought never to be raised, for experience will prove to any one who will take the trouble of trying the experiment, that a little practice will enable him to acquire sufficient dexterity to perform this operation with ease. This may be done by rehearsing it, whenever opportunity offers, upon the dead subject, upon which, as I have now one before me, I will point out the proper mode of proceeding. The instrument I use, and which I now show you, is a metallic bougie, or sound, rather thicker than a common probe, and somewhat conical at the point, bent, as you see, in the shape of an italic letter *S*, for I find this the most convenient form; the handle is flattened, and the instrument about three inches in length. I first pass the point along the floor of the nose, keeping it downwards at first, afterwards carrying it outwards, till I find I have placed it between the inferior turbinated and superior maxillary bones. I then turn it directly upwards, and in this way introduce it into the termination of the duct, which can generally be distinctly felt, as the point is moved gently backwards and forwards along the membrane. This is the most difficult part of the operation, for when you have once fairly entered the point, it is easily pushed onwards by depressing the handle of the instrument. Great care must, however, be taken not to use force in passing it through the duct, the bony case of which is very easily broken down; if you meet with much resistance, which you will seldom do, unless in chronic cases, you must satisfy yourself at first with merely entering the point into the stricture, from time to time, until the constricted parts have yielded; and while you are thus endeavouring gradually to dilate the stricture, as well, indeed, as during the whole process of cure, even when the instrument has been passed, you will find very great advantage from the injection of tepid water in the acute, and astringents in the chronic stages, through the canal; this is best effected by introducing the instrument I now show you into its nasal termination. You see that it is a small catheter of the same shape as the metallic bougie, through which, by attaching a syringe to one end, an injection can be thrown with sufficient force to wash out thoroughly both the duct and sac; a part of your treatment which is of considerable importance. In adopting this mode of proceeding, it is unnecessary to push the end of the catheter into the sac, for if it is merely introduced into the mouth of the duct, the injected fluid will readily pass into the inflamed cavities. You must, I think, be at once convinced of the superiority of this plan, when it is practicable, over that which is usually adopted,—I mean the injection of the lachrymal conduits through the puncta. Sometimes, however, when the stricture is firm, and the canal perfectly impervious to the passage of either your instrument or your injections, you must have recourse to this latter mode for accomplishing your object, and, by introducing a punctum tube, inject the sac by means of Anel's syringe. You are always to fill and empty this two or three times by pressure, whenever you use the injection. If you are called to a case of abscess of the sac presenting an external opening, it is better to pass your probe first through the upper opening of the duct; this is of course by far the most easy way of overcoming the obstruction; and having once passed a probe in this direction, its introduction from below is at once insured, and you may venture to use more force in operating through the sac than through the nose.

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Use of Mercury.

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CRYMALIS.*

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Having taken advantage of an opening thus already made, by establishing the continuity of the canal in this way, it will be your object to prevent a fistulous opening in the face, from the continued discharge of the abscess, by endeavouring to effect the closure of the wound, avoiding the subsequent use of any instrument through the sac, and insuring the permanent dilatation of the stricture, by carrying on your operations from the nose. The nasal probe or bougie should be used about twice a week, and the sac and duct injected daily. In those cases where abscess has formed, and the integuments have become not only deeply discoloured, but obviously so thinned by absorption, as to render the natural evacuation of pus through the surface inevitable, it is better to puncture the abscess at once, and having passed a probe through the duct from the sac, endeavour to close the opening in the face by following the plan of treatment I have mentioned, and which, perhaps, if pursued in the commencement, might have prevented the disease from terminating its course in the manner I have described. Keep the nasal duct freely open, gentlemen, and you need not fear fistula lachrymalis, or abscess of the lachrymal sac.

BRUIT DE SOUFFLE IN ANÆMIC CASES.

The following observations, and they are valuable, will be found in M. Andral's Lectures.

1st. When a patient has been bled several times, or suffered from frequent hæmorrhage, the *bruit de souffle*, either permanent or intermittent, often occurs, but not constantly.

2nd. In spontaneous anæmia the same bruit exists.

3rd. Whenever the blood globules fall below 80, the *bruit de souffle* is constantly heard in the arteries, and sometimes in the heart.

4th. The same often occurs with diminution of the globules between 80 and 100; or in rarer cases, between 100 and 125.

5th. In some very rare cases the *bruit de souffle* exists when the globules are at 131 to 137; hence we must conclude that it is not exclusively connected with diminution of the globules.

The above results were obtained from an analysis of 93 cases, in which the *bruit de souffle* existed in the heart or arteries. Amongst the 93 cases it was permanent in 56; and in the latter the globules were 28 times above 80; 13 between 80 and 100; 10 between 100 and 115; 5 between 115 and 125. It was intermittent in 3 cases, where the globules were below 80; in 13 between 80 and 100; in 8 between 100 and 115; in 5 between 115 and 125; in 3 between 125 and 137; and in 3 between 131 and 137. The intermittent souffle is less valuable as a symptom than the constant; the latter is more characteristic of diminution of the globules, and becomes intermittent as their proportion is increased.

The *bruit de souffle* occurs in several other diseases, as well as in chlorosis. In one case of rheumatism, where the globules were at 97, the permanent bruit was heard; it was intermittent in another case, where they were at 99; from 81 to 97, it was sometimes permanent, sometimes intermittent. This bruit very rarely occurs in pneumonia, although the patient may have been frequently bled; a circumstance readily explained by the inflammatory nature of the disease; but it should be remarked, that the globules never fall as low in pneumonia as in rheumatism. From the above, it is evident that abstraction of blood is injurious in persons of anæmic temperament, unless there exist some disease which imperatively demands it; on the contrary, substantial diet augments the globules, and hence is beneficial; the same remark applies to the preparations of iron, which increase the proportion of globules, and not the fibrin.—*Prov. Med. and Surg. Journ.* Aug. 7, 1841.

Spirit of the British and American Periodicals &c:

THE RETROSPECT OF PRACTICAL MEDICINE AND SURGERY. For the First Half Year of 1841. By W. BRAITHWAITE, M.R.C.S., &c. &c.

WE have, on a previous occasion, expressed a high opinion of Mr. Braithwaite's work. It is one so eminently calculated to be useful, that we hope it will be widely patronised. We shall ourselves notice several of its articles.

1. *The Tinctura Ferri Sesquichloridi in Discharges of Blood from the Urethra.*

Mr. Clay, of Manchester, has contributed some observations on this subject to the *Lancet*. He says:—In all cases where great discharges of blood have taken place by the urethra, it is generally remarked that the quantity of urine is small; and this is a strong presumptive proof that the disease is seated in the secreting organs, and not in the bladder: under such circumstances we can hope for no advantage by local applications to the inner surface of the bladder; it must be evident, our only advantage is by constitutional treatment, assisted by local applications over the region of the kidneys. In a case that he relates, Mr. Clay prescribed with the happiest effect:—

Tincture of muriate of iron, ʒj.; *tincture of opium*, ʒiss.; *infusion of Iceland moss*; *infusion of gentian*, of each ʒiv. Let an ounce be taken every four hours.

Mr. Clay adds:—Occasionally I have obtained relief from blisters and tartar emetic plaster over the region of the kidneys; but, except in recent cases, and of no great extent, I have not found them of permanent benefit; on the contrary, few cases have withstood the *tinct. fer. mur.* The number of cases I have seen relieved and cured by it, warrants the conclusion, that the disease is generally in the kidneys, and must therefore be attacked through the constitution.

2. *Stimulating Treatment of Cerebral Disease.*

Mr. E. Copeman has had a paper in the *Medical Gazette* which contains the following conclusions:—

1. That apoplectic and paralytic affections may take place in an extreme degree without organic disease of the brain.
2. That they often occur from other causes than pressure on the brain.
3. That bleeding, so far from being always necessary, is in many instances prejudicial.
4. That the effort of vomiting is not so prejudicial in these diseases as is generally supposed.
5. That counter-irritation, both external and internal, is a valuable means of affording relief to the symptoms immediately succeeding the attack.

Mr. Copeman inquires, whether there are symptoms generally present in cases of apoplexy and paralysis, which, by strict observation, may enable us to distinguish clearly between those which require bleeding, and those which would be better treated without it. I frankly confess my inability to answer it satisfactorily, and find that others have also failed in doing so. If I may be allowed to give an opinion, I should say that bleeding is unnecessary or prejudicial where the patient is 60 years of age or upwards; where the pulse is feeble, very frequent, intermitting, slow, or large, and inclined to double beat, (I have always found a pulse with double beat indicative of a state of system best relieved by diffusible stimuli,) where the respiration is laboured and accompanied with cold perspiration; where there is great mobility of the nervous system with weak muscles, whether the body be thin or corpulent; when the attack comes on soon after a full meal, or after great bodily or mental fatigue.

A quick, wiry, resisting pulse, flushed countenance, warm perspiration, noisy breathing, and a tendency to spasmodic muscular contraction, occurring in persons of an earlier age, seem to point out a necessity for resorting to abstraction of blood; but I believe there will be less danger in not bleeding in any case, than in always having recourse to it, where there are *some* circumstances indicative of the propriety of its employment.

3. *Guaiacum for Cynanche, and for Rheumatism.*

Several cases of cynanche are related by Mr. Bell, of Banhead, in which half drachm doses of the powdered guaiacum every four or six hours, either alone or mixed up in a suitable form, were attended with very remarkable success; and we recommend the reader to turn to the several cases related in the original paper in the Medical Gazette. Mr. Bell's formula is as follows:

℞ Pulv. Guaiac. ʒij.; Mucil. G. Arab.; Syrup. Simpl. aa. ʒij.; Aq. Cinnamom., Aq. Puræ, aa. ʒiv. M. et solve. Capt. ʒij. 4ta. q.q. h.

[One or two days are only required for the cure. In other cases the powdered drug was given in some simpler vehicle. It will be found chiefly successful, if given before suppuration has taken place.]

Guaiacum is a favourite remedy of Dr. Seymour's in rheumatism. In one of his late clinical lectures, at St. George's Hospital, speaking of the treatment of rheumatism, he says:

I generally premise a good bleeding, and afterwards administer the *guaiacum mixture*, and in a few days the patients are well. In the cases at present under our notice, I have followed out this plan, and you have seen how very successful it has proved. How the *guaiacum mixture* acts in these cases I do not pretend to say, except that it causes a profuse increase of the secretions from the skin, the bowels and the bladder; I never find that it begins to effect a cure until all these are fully established.

4. *Piperine in Intermittent Fevers.*

Dr. Hartle, Port of Spain, West Indies, writes—I began, as soon as the sweating stage was established, by giving three grains of piperine every hour, until eighteen grains had been taken; and on the following day, when the intermission was complete, I gave the same quantity every three hours. It has in every case succeeded in checking the paroxysm, and as soon as that was accomplished, I gave for some days the following pills:

℞. *Pilule Hydrarg.* gr. i.; *Piperinæ*, gr. ij.; *Sulph. Quinæ*, gr. ij.; *Syrup com. q. s. f. M. f. Pil. no. 1. omni mane, meridiæ, et vespere capienda.*

5. *Poultices in Inflammations of the Great Cavities.*

The application of poultices in cases of inflammation of the great cavities is a common practice in France. The usual material, says Sir C. Smith, in the Dublin Journal, for poultices is the linseed meal; and they are usually included within linen cloths. The poultices are generally so large as to cover the seat of inflammation. They should be removed and renewed every three or four hours. Particular attention to the latter circumstance is desirable, as the edges are liable to grow cold, and a disagreeable and dangerous dissipation of animal temperature is the result; and in this and in their weight consist, I think, the principal disadvantages of the system.

In the bronchial irritation attendant upon the exanthematous fevers, poultices to the chest are universally employed; and where any want of energy appears to exist in the system, preventing the coming out of the eruption, cataplasms, consisting of the usual linseed meal, with the addition of a very small quantity, say a twelfth or a fifteenth part of mustard meal, (not flour,) are applied to the feet, and maintained for days together; thus keeping up both the temperature of the extremities, and gently stimulating the skin. The same mixture is also, when

necessary, applied to the calves of the legs and thighs—the practice in the latter instances being similar in intention to that adopted in Great Britain; but from the mustard meal being less irritating than the flour, and being used in so small a proportion, the sinapized cataplasms can be longer retained in their situation.

Pleurodynia, diaphragmitis, and many other affections of a painful nature, are likewise treated by poultices; and it is certain, that their effects are often, in such cases, very satisfactory.

We have long been in the habit of employing poultices in cases of inflammation of the great cavities. They are certainly useful, but to nothing like the extent which our neighbours of France seem to think. This is indeed a part of their do-little practice, a branch of the tree which bears the sloppy fruit of demi-lavements, ptisans, and so forth. It is chiefly in cases of inflammation of the mucous membranes towards its *decline*, of irritation of those membranes, and of rheumatism, that they are useful. But poultices are not to be a substitute for active treatment—only a rider to it.

6. *Salivation from Iodine and Salivation from Mercury.*

Sir F. Smith writes in the Dublin Journal of Medical Science:—

In the July number of this Journal* I made mention of a case in which I had met with salivation from the use of hydriodate of potass. The fact of salivation occurring from the use of iodine or its preparations is not new: I have, since the publication of the article referred to, met with it in two instances, in one that of a young gentleman using the hydriodate of potass, for a scrofulous necrosis in the bones of the legs; the other that of a young lady, who, for a glandular disease of the neck, was put under the influence of iodine, administered in the watery solution as recommended by Dr. Osborne, of Dublin, at the rate of a grain to the pint; both had been under the influence of the mineral during nearly four months, and had been copiously salivated, and required mercurial purgations, and the administration of bark for the relief of the ptyalism. In each of these cases the entire absence of fetor of the breath was remarked, as was mentioned to have been the case in that which was recorded in the July number. Now, it is worthy of inquiry, why, when fetor is so constantly found to attend salivation by mercury, none should accompany salivation by iodine or its salts? I believe the difference to depend upon the fact that in the action of mercury upon the mouth, there is not only an action induced upon the salivary glands, but also upon the mucous membrane of the mouth, from the alteration in the structure of which latter tissue arises the fetor. If the mucous membrane of the lips, cheeks, or gums be examined with a powerful lens, at the period when mercurial action is commencing in them, a species of ulcerative absorption will be observed to be in progress, which, being increased by the continuance of the cause, soon ends in ulcers of greater or lesser size, perceptible to the naked eye. On the contrary, in the salivation by iodine, the principal, if not the only action of the medicine, is directed to the salivary glands; and though I have in one case observed, with great surprise, the teeth to be loosened, I have never been able to discover any thing like ulcerative action to exist in the mucous membrane of the mouth, and upon this peculiar difference in their relative actions depends, I believe, the presence or absence of fetor of the breath during salivation induced by mercury, and iodine or its compounds.

7. *Pure Tassia for profuse Perspiration.*

Sweating, says Dr. Chervet, is a morbid symptom which is often so serious and inconvenient, that the practitioner is obliged to combat it by special remedies.

* The Dublin Journal of Medical Science.

The acetate of lead, which has been extolled of late years, sometimes causes inconveniences which hinder many practitioners from employing it in cases where its use seems clearly indicated. Pure tannin, employed as an anti-sudorific, appears to be free from these disadvantages. The author has employed it for two years at the hospital, and in his private practice, and though it has not succeeded in every case, it has in almost all.

He prescribes it in the form of pill, and in the dose of from two and a half to ten centigrammes (half a grain to two grains) in twenty-four hours, generally in the evening, with or without opium, which neither checks nor favours its action.

8. *Pitch for Piles.*

Dr. Wardleworth assures us that he has used this remedy with advantage in many cases, both of external and internal piles. His usual formula consists in ordering 3½ grains of pitch to be made into pills, two of which are to be taken every evening. The well-known efficacy of balsamic remedies in piles may perhaps serve to recommend these pitch-pills.

9. *Burnt Rhubarb in Diarrhoea.*

Mr. Hoblyn, of the Middlesex Hospital, informs us that—

It may be useful to the profession to know the value of burnt rhubarb in diarrhoea. I have used it for seven years, and found it more serviceable in the diarrhoea, attendant on the last stage of consumption, than the chalk-mixture and opium, or any other of the usual remedies.

I have known it used, with the same pleasing effects, for more than twenty years, in incidental diarrhoeas. After one or two doses, the pains quickly subside, and the bowels return to their natural state. The dose is from five to ten grains.

The manner of preparing it is to burn the rhubarb powder in an iron creble, stirring it until it is blackened; then smother it in a covered jar.

It loses two-thirds of its weight by the incineration. It is nearly tasteless. In no one case where I have known it given has it failed. I have given it in port wine, milk, and water.

10. *Peculiar mode of giving Mercury in Chronic Hydrocephalus.*

Dr. Watson, in his admirable Lectures, tells this case.

An apothecary of considerable experience—now dead—had a lad, fourteen years old, whose name was Scott, under his care, with chronic hydrocephalus, in the year 1817. He had been ill two or three years. He was nearly blind, had very little use of his lower extremities, and could not walk across the room without support. He suffered violent pains in his head, and was unable to bear the least pressure on his scalp. His bowels were constipated, and his pulse “oppressed.” Cupping and blistering, and the blue pill, and drastic purgatives, and ordinary diuretics, tried in combination and succession, gave him temporary relief; but no permanent benefit was obtained. Dr. Gower then suggested a plan which he had himself found successful in such cases, and which had first been used by Dr. Carmichael Smyth, who had recorded ten cases of recovery under its adoption. Dr. Gower’s plan was to rub down ten grains of crude mercury with about a scruple of manna, and five grains of fresh squills: this was to be one dose; and it was to be repeated every eight hours.

My informant rubbed the quicksilver down with conserve of roses, and then added the fresh squills, making the whole into the consistence proper for pills, with liquorice powder. The patient took this dose three times a day, for nearly three weeks, without any ptyalism being produced. Its effects were great prostration of strength, and loss of flesh, with gradual relief of all the boy’s sufferings. It operated profusely by the kidneys. The medicine was continued twice a day, and at length once, for another fortnight; when all the symptoms of the

disease had disappeared. The boy was greatly emaciated: he was then ordered an ounce and a half of Griffiths' mixture thrice daily; and soon regained his health and strength, and got quite well. And he remained well eight years afterwards.

The same apothecary had another case under his care, which, under the same treatment, terminated equally well.

11. *Dangers of Opium in Delirium Tremens.*

Dr. Ware, of Boston, publishes a table of 69 cases of delirium tremens, treated in different ways.

Treatment.	Number of Cases.	Bled	Died	Recovered.	Complicated with acute Disease.
Opium, large doses	8		4	4	1
„ small	7	1	2	5	1
Emetics	12	1	1	11	2
Bleeding	2	2		2	
Eclectic	9	5	3	6	7
Quinine	1			1	1
Mercurials	1			1	
Expectant	29	4	1	28	1
	69	13	11	58	13

It appears, that of fifteen cases in which opium constituted the principal remedy, six died; whilst of fifty-four in which opium was not used at all, or only incidentally in small quantities, only five died. Still further, if we separate from these fifty-four, the nine cases in which the treatment was eclectic, and in which the mortality seems to have arisen from the combination of acute disease, we have a remainder of forty-five cases, of which only two were fatal.—Again, if we compare the mortality of those cases in which opium was pushed to the full extent advised by writers on this disease, with those in which no active remedy was employed, we have a mortality of one in two, against a mortality of only one in twenty-nine.

This difference in the results of treatment would seem altogether too great to be attributed to accident, and goes far to establish the truth of the opinion formerly expressed, that opium given in large doses is actually injurious to patients labouring under delirium tremens. But even admitting it to be possible, that the great proportion of fatal cases occurring where opium was used, was accidental, it certainly, I think, will not be contended, that the favourable termination of the cases not treated by opium, was also owing to accident. And it will certainly follow that opium, if not actually injurious to these patients, is at least useless, and that our success in this disease will be sufficiently satisfactory without it.

It is certainly difficult to argue against figures, but we are tempted, notwithstanding, to doubt these conclusions. We recollect what delirium tremens was before the opium practice was in common use, and what it is at present, and we can scarcely bring our minds to believe that that practice is not a great improvement. We do conceive that the change of practice has succeeded to a great extent. But those who prefer the old plan, who would rather—

Stare super antiquas vias,

may appeal to Dr. Ware's paper.

12. *New kind of Catheter.*

Mr. Foulkes, of Liverpool, has brought this forward. It is to obviate the necessity of using different-sized instruments in cases of spasmodic or permanent stricture of the urethra: or rather to prevent the necessity of withdrawing the one first used when too large, and substituting smaller ones. The instruments are all made of flexible gum. The outer or largest catheter or case contains a smaller one; both these are tipped with silver—within these there is a still smaller one, rounded as a common catheter with an aperture at the side for the escape of urine: they all slide one within the other. The smaller one can be advanced through the contracted part, if the larger one is prevented passing. It is something the same as if we passed a catheter down to the stricture, and when not able to pass it further we advanced the stilette of the catheter through an opening at the end of the catheter and through the stricture. The whole, when put together, forms a sufficiently round point to protect the urethra from injury.

13. *Subcutaneous Division of Bursa Mucosa.*

[Professor Williams, of Dublin, has cured several cases of chronic tumours of the bursæ mucosæ and synovial sheaths of tendons “by the subcutaneous division of the sac of the tumour and the subsequent application of pressure.”]

A cataract needle was passed into the tumour (an enlarged bursa over the knee), and the entire thickness of the sac divided by several parallel and longitudinal incisions. A portion of the fluid escaped into the cellular tissue, but the greater part found exit externally on the withdrawal of the needle. The knee was then strapped with adhesive plaster, and the limb kept at rest.

[Dr. Houston confirms Mr. Williams's statement by a similar case of his own, respecting which he says,]

The operation was performed with the cataract needle, but as the needle would not have extended much more than half the diameter of the tumour, it was necessary to introduce it first at one side, and then at the other. In this way a number of radiating incisions were made through the sac on both sides, so that there were at least half a dozen incisions on both sides, radiating from the point where the needle was introduced. Next day the tumour had nearly disappeared, and there was no subsequent pain or inflammation. About a tea-spoonful of fluid escaped during the operation.

14. *Excision of Tendons for Paralysis of Muscles.*

Mr. Braid, of Manchester, relates, in the Medical Gazette, several cases of talipes, arising from a *paralytic state* of certain muscles instead of the more common cause, viz., a too powerful or contracted state. For the cure of these cases, he excises a small portion of the particular tendons implicated in the disease, and by the consequent union of the divided ends, he produces such a degree of contraction in the paralytic limb as to act most favourably. Take a case.

Miss —, æt. six years, has been deprived of the use of the left leg by a paralytic stroke. She has undergone a variety of treatment under some of the first medical gentlemen of this town; but, for the last two years, has been given up as a hopeless case. Her present condition is this: the left leg is perfectly powerless, dangling by the side of her crutch, without reaching the ground, and is much colder than is natural; the foot assuming the appearance of a slight degree of varus, so that it would, if brought to the ground, rest on its outer edge, the toes inclined a little inwards, and the heel slightly elevated. On the 30th of June, 1840, assisted by Mr. Rhind, my son, and one of my apprentices, Mr. Pacey, I made a longitudinal incision along the course of a peroneus tertius, which I elevated, and excised a portion of it, to the extent of three-sixteenths of an inch. I then closed the wound with plaster, and applied splints and bandages, so as to approximate the divided ends, and maintain them in contact.

10th.—In the presence of my talented friend, Dr. J. L. Bardeley, and others, she actually walked across the room and back again without any assistance whatever,—a fact which equally astonished and delighted him and all present. In twenty days she was enabled to walk about in a laced-up boot; and in a week more to throw her crutches aside entirely. She has continued well and strong ever since. Besides the operation nothing else was done in this case, excepting the use of a stimulating liniment, which she had employed before without the least benefit.

15. *Nitrate of Silver for the Stoppage of Hæmorrhage after Extraction of Teeth.*

Mr. Ray has published a case in the *Lancet*. Upon placing the patient, with a slight inclination backwards, she immediately choked, and it being night, and in the upper jaw near the throat, I had much trouble in obtaining a view of the situation of the hæmorrhage, which flowed as freely, with the pressure of my finger in the socket, as with the addition of small pledgets of lint, steeped in a saturated solution of alum. After an ineffectual trial of these means, I took a stick of nitrate of silver, rounded at the extremity, and firmly forcing it to the bottom of the cavity, allowed it to remain a few seconds in this situation; very little pain was expressed, and, upon its withdrawal, I was gratified in finding a complete cessation of the hæmorrhage. The mouth was kept open with a cork, for about half an hour, to admit air freely, and ensure the preservation of the clot, which might have been disturbed or removed by suction; she then took forty minims of opium and a teaspoonful of compound spirit of ammonia, and afterwards rested five or six hours. With the exception of an unpleasant *cupreous* flavour communicated to all nourishment for the next few days, nothing was complained of but extreme exhaustion, which was many months in disappearing.

16. *Sir B. Brodie on the Treatment of Ununited Fracture.*

Some years ago he had made some experiments on the mode in which fractured bones united, and he had come to the same conclusion as Dupuytren, without having been aware that he had been pursuing the same inquiry. The result of these experiments had satisfied him that union at first depended more upon the neighbouring cellular tissue than upon the periosteum, whatever part the latter might afterwards play in the process. He might take this opportunity of remarking, that he had found the most successful plan of treating ununited fracture, to be that pursued by Mr. Amesbury, and consisting in the binding of the limb in an immovable apparatus, by which the extremities of the fractured bone were kept in a state of forcible apposition for a long period. The plan was a very painful, but a very successful one. He had succeeded in procuring union, by this mode of proceeding, in one case, in which the fracture had been ununited for two or three years, and a seton had been passed through it without benefit, the arm remaining dangling and useless. In the experiments he had alluded to, only one case of union by ligament occurred, and this was in a fracture of the femur of a rabbit. He had endeavoured to account for this deviation from the general rule, but had not succeeded.

17. *The late Mr. Earle on the Mode of Preventing Contraction after Burns.*

I am quite ready to admit that it is not in our power to arrest the law of nature, by which a cicatrized surface becomes smaller, and occupies less space, than the original wound: but it is in our power, in most cases, to direct and modify that which we cannot wholly prevent; and thus, at all events, to counteract its injurious effect. To take the upper extremity as an example, I will suppose a case, where the whole integuments on the inner and front part of the arm and fore-arm have been destroyed. If such extremity be kept carefully extended on a splint, not only during the whole process of healing, but long subsequent to the perfect cicatrization, you will find that the cicatrized surface will diminish in a

circular direction, drawing the healthy integuments together from side to side, but that no contraction will take place in the long axis, in which alone it can impede the due motions of the limb. This permanent extension should be persevered in during the *day and night*, until all changes have ceased, and the cicatrix has contracted to its smallest dimensions. Care, however, should be taken, during this time, to give passive motion to the different joints, by which the proper secretion of synovia will be kept up, and the eventual free use of the limb will be ensured. This plan of maintaining the limb in a state of permanent extension should be commenced as soon as the wound has begun to granulate.

18. *Another Infallible Specific for Gonorrhœa.*

M. Gaudriot concludes that the chloride of zinc, properly diluted, has a remarkable power in curing simple gonorrhœa of the urethra and vagina, also in dilating the urethra, and thereby ameliorating strictures. He believes that it is always by an inflammation *sui generis* that the discharge is cured, and that injections of the chloride of zinc determine a series of phenomena not produced by other caustics. It is only necessary to use a few drops of injection, as the extremity of the urethra is the only part to which it should be applied. To combat vaginal gonorrhœa in women M. Gaudriot proposes a new proceeding, which consists in the use of solid vaginal suppositories, composed of a paste made to melt easily, and containing a certain quantity of liquid chloride of zinc and sulphate of morphine.

In men the author employs the following formula :

Liquid chloride of zinc, 24 to 36 drops.

Distilled water, four ounces.

Agitate and filter through paper.

A small quantity of this solution should be injected about an inch along the urethra, two or three times a day.

The vaginal suppository which he employs is formed of—

Liquid chloride of zinc, 5 drops.

Sulphate of morphine half a grain.

Mix with three drachms of the following paste.

Mucilage of gum tragacanth, 6 parts.

Powdered sugar. 3 "

Starch powder 9 "

To cure radically a gonorrhœa in man, it will ordinarily suffice to apply two injections a day for two or three days. The first injections are almost always followed by more or less swelling of the glans penis, but this does not prevent their continuance.

In women four or six suppositories, one being introduced every day, or every second day, suffice to obtain a cure. The first introduction frequently occasions a swelling with more or less heat of the vulva, but these phenomena are soon completely dissipated. Emollient baths have in most of the cases been employed for this purpose.

Those who are easy of faith will believe M. Gaudriot.

19. *The Steam Apparatus.*

A very ingenious one has been invented by M. Duval. The apparatus in appearance is somewhat elegant, is comprised in so small a space that it may readily be carried in the hand, and may be applied either locally or generally, as circumstances may require, with equal facility. It consists of a reservoir for the water, capable of containing a little more than a pint, supported upon three metallic rods, and having a coverlid which is furnished with two openings, one at the centre and one towards the side. From that in the centre arises a tube, terminating in a hollow globe, having attached to it, and communicating with its interior, three short branches furnished with moveable lids. A similar branch is

connected with the opening at the upper edge of the reservoir. Beneath, on a pan supporting the parts already described, is placed a spirit lamp, having four burners, and these, when lighted, quickly vaporize the water in the reservoir above. The steam is then conducted to the globe, and thence, by means of short pipes slightly curved, and which may be connected with any one or all of its branches at pleasure, to the part of the body required. The force and the quantity of vapour expelled, is regulated by a key at the side of the principal cylinder, and which will diminish or enlarge its diameter much on the principle of the ordinary stopcock, while its escape upwards is entirely and instantly prevented by exposing the opening at the edge of the reservoir. The way in which it has been used for affections of the joints is simply this—the patient covers the wrist, for instance, with a piece of flannel, large enough for its edges to fall on a pillow, which is placed to support the fore-arm. The nozzle of one of the tubes is then placed beneath the funnel, and the steam allowed to escape. The joint thus enveloped in steam, has usually been allowed to remain for about half an hour; the application being made once a day, or oftener, as the circumstances require. Various modifications of the tubes for different purposes are capable of being adjusted to the openings in the reservoir; but the above-mentioned forms have been found sufficient for such cases as those about to be noticed.

The vapour bath in this form has been introduced into Guy's Hospital within the last two months, and has since been used extensively, and with considerable benefit.

The apparatus is thus used:—The patient lies supine in bed, and three or four slender arches of wood, or other convenient material, are placed across the body, so as effectually to raise the blanket from any contact with it. The apparatus is supported on a stool at the foot of the bed, and one of the pipes allowed to project into the arched cavity, which soon becomes filled with the vapour. In this way all the inconveniences attending a removal to and from the bed are of course got rid of.

20. *How to cure Choking.*

Choking, says Dr. Marshall Hall, is only another form of the croup-like convulsion, arising from a more sudden but less permanent *cause*, upon *other* incident excitor *nerves*; and it is to be treated upon precisely similar principles: *the cause must be effectually removed, and as speedily as possible.*

I was witness to a case of choking the other day; respiration was arrested; there was a fearful struggle for breath; not a moment was to be lost; I took the boy and placed him between my knees, so that I could make free pressure on the abdomen, whilst I placed one open hand on the posterior part of the thorax, and struck with the flat part of the other, gently closed, on the anterior, briskly, forcibly; the latter part of this operation was promptly performed, and the little patient was instantly relieved.

21. *Suture of the Labia for Procidencia Uteri.*

Professor Geddings has operated successfully in four cases; and the following is the manner in which the operation was performed. The patient was placed in the ordinary position for lithotomy, and the prolapsus reduced. One labium was then put on the stretch by an assistant, and an incision was commenced, with a common scalpel, about a finger's breadth from the upper commissure, and the same distance from the edge of the labium. The incision was carried downwards with a bold sweep, and terminated by a slight curve inwards, and at a little distance behind the fourchette. A slip of the labium of a finger's breadth in thickness was thus severed from the external parts, taking care not to cut through the mucous membrane of the vagina. Making traction on this slip, downwards and inwards, the mucous membrane of the lateral portion of the vagina was then dissected up to the extent of an inch and a half, and detached

with the excised labium. The same thing was repeated on the opposite side, the incision being so directed as to intersect the first cut at an acute angle, and remove the fourchette with the other parts. After the hæmorrhage, which was generally inconsiderable, had ceased, an oiled sponge was passed into the vagina, and the two raw surfaces brought into apposition by means of the quilled suture of five stitches. The parts were dressed with a compress of soft lint, secured by a T bandage, and the patient put to bed, with her ankles and knees properly secured together by means of bandages. It was not found necessary to use the catheter, but considerable advantage was derived from keeping the dressings constantly wet with cold water. The introduction of the sponge is for the purpose of preventing the descent of the uterus till adhesion had taken place, and was generally removed about the fifth or sixth day. The sutures were removed in proportion as the parts appeared to be united.

In the four cases operated on by Professor Geddings, no return of the complaint had occurred at the period of the publication of this paper, and they had all returned to their usual avocations.

22. How Artificial Light impairs Vision.

Dr. Hunter, Surgeon to the Eye-Dispensary, Edinburgh, thus explains it.

Common day-light, which is the only natural light, and the least injurious to the eyes, consists of red, yellow and blue rays in the ratio of 5, 3, and eight; that is a predominance of blue rays, which form the mildest and least hurtful to the retina. In the ordinary forms of artificial light, as the light from candles, either of tallow or wax, oil or coal gas, this proportion is reversed, the yellow and the red rays being in excess, and the blue rays in the ratio of minority. From this peculiarity in artificial light in the excess of red and yellow rays, various inconveniences and evils result.

1. Colours and coloured objects appear in it differently from what they do by day-light.
2. The retina is unequally, we would say too strongly excited, and becomes less sensible to those rays that are in excess, so that afterwards, when it views a white object by day-light, the blue rays contained in the white light reflected from its surface, make a greater impression than the red or yellow rays, and the objects assume more or less of a dingy blue or purple colour. This over-excitement of the retina produces films, *muscæ volitantes*, and even amaurosis.
3. The red and yellow rays possess considerably higher heating powers than the blue rays, and therefore artificial light, which contains these calorific rays in larger proportion, must be injurious to the retina in this manner.
4. From artificial light furnishing less defining power, it is requisite to use it in considerable quantity; and this is another source of over-excitement to the retina.
5. While, in the case of natural or day-light, the ordinary calorific or heating powers of the red and yellow rays are, by various circumstances and beautiful provisions in its transmission through the atmosphere, almost annihilated, so that these rays arrive at the eye with much less of their heating powers than they would have, if direct, the rays of artificial light, by coming more directly and in a more concentrated form on the eye, are accompanied with their concomitant heat, and thereby injure the retina greatly by this hurtful adjunct.
6. The carbonic acid gas which is extricated from all artificial lights, procured as they are by combustion, though not acting on the eye itself, acts on the brain, and especially the optic nerves, the sensibility of which it weakens and ultimately destroys.
7. All artificial lights are unsteady and irregular, and very often placed in improper positions.

Of all artificial lights, gas light is the most hurtful, not from anything peculiarly noxious in its qualities, but from its cheapness, which leads to its being used in excess, and consequently, in such quantity as to over-stimulate the eyes.

To obviate these several evils, Dr. Hunter recommends the more sparing use of gas-light and other artificial lights, and the employment of means calculated

either to add blue rays when deficient, or to withdraw the red and yellow rays when in excess.

This object is to be attained by the use of conical reflectors of a bluish or azure colour, and chimneys stained of a blue colour. Pale blue glasses are also recommended; but Dr. Hunter thinks their use is not advisable, as they become hot and require, from the loss of light they cause, to be often removed.

23. *True and False Corpora Lutea.*

Dr. Paterson has shewn, that false corpora lutea are frequently connected with menstruation, and has given several cases in illustration. He comes to the following conclusions:—

“False corpora lutea in the human female, arise,

First, From the bursting and subsequent filling of a vesicle with blood, as in menstruation.

Second, From partial effusion of blood into a vesicle, either with or without rupture of it.

Third, By re-absorption of the fluid of a morbidly enlarged Graafian vesicle, giving rise to a puckered cyst.

Fourth, From effusion of blood into the tissue of the ovary—the apoplexy of that organ.

Fifth, Tubercular deposits.

Sixth, Cysts filled with yellow fatty matter.

These are to be distinguished from the true corpus luteum by the following marks—

They in general have an irregular form. They want the central cavity lined with a distinct membrane, or the central puckered cicatrix.

They have no concentric radii.

They are frequently numerous in both ovaries.”

MEDICINE IN EGYPT.

Dr. Sargent has published in the *Dublin Journal** an interesting account of the state of medicine in ancient and in modern Egypt. We shall make a *mem* or two.

Consecration of Parts of the Body to the Deities.—The head was consecrated to Phré, the sun; the eyes, to Hathor or Venus; the left temple, to the living spirit of the sun; the nose and lips, to Anubis; the neck, to Isis; and arms, to Osiris; the genitals to Osiris and the goddess Kopt, &c. &c.

The Mosa in the 16th Century.—They formed a pyramid of cotton wound round with a silken thread, the base was firmly fixed to the skin, and whilst the combustion was taking place, the surrounding parts were preserved from the effects of radiation; the pyramid was made either solid or hollow to modify the eschar. I have been thus particular to show the minute coincidence of their practice with our, I may say recently introduced, mode of applying the same remedy. The diseases, too, in which it was applied are precisely identical with those in which it is now deemed useful.

Diseases of Egypt.—The temperature, the simoom, an insufficient supply of food, its frequently noxious quality, and a degree of filthiness of habit beyond all description, place the mass of the population under physical conditions per-

* September, 1841.

haps more disposing to disease than those surrounding any other people. Under these circumstances we cease to wonder at the relation of the numerous severe affections occurring in Egypt. Ophthalmia, in many and obstinate forms, is all but universal ; skin diseases of peculiar malignancy and inveteracy abound ; variola has been very fatal in Egypt ; putrid fevers and intermittents are frequent ; phrenitis of great violence also occurs, so as even to destroy life in a few hours ; mania, dysentery, and rheumatism are prevalent, along with several surgical disorders, such as calculus, hydrocele, herniæ, &c. ; and, to crown the whole, plague in its worst and most destructive forms. Although the older writers mention severe inflammatory affections of the chest as common in the country, Clot Bey asserts, that Egypt enjoys an immunity from those diseases, as also from consumption ; and he even proposes a residence there for patients suspected of phthisis.

To meet this mass of disease the native physicians possess neither the elementary principles of their art, nor even the practical skill of former ages ; and the best account of Egyptian practice contains merely a record of gross and frequently disgusting superstitions.

Clot Bey's Introduction of Anatomy into Egypt.—"I summoned to the proposed seminary the best informed of the rising generation, and 100 young Arabs were the first pupils ; new difficulties now presented themselves ; we were mutually ignorant of each other's language ; how then, I said, were the pupils to be instructed ? I fortunately succeeded in finding in Paris three persons who understood French, Italian, and Arabic ; but these persons were ignorant of medical knowledge. I told them they should become physicians, but that they should first be pupils. I accordingly set them at work on the translating a treatise on anatomy, lessons from which were dictated to the pupils, who were afterwards examined by means of the interpreters ; but plates and wax models having failed to communicate the necessary anatomical knowledge, the dissection of the actual subject became essential : but here almost insuperable obstacles were before us, independently of the idea of profanation of the body. The Egyptians have a theological doctrine that the dead feel the tortures to which they may be subjected ; the Pacha and the Minister of War refused to undertake the responsibility of sanctioning the practice ; at length, however, the chief of the Ulemas, a learned and enlightened man, was induced to *connive* at it ; two pupils were induced to begin on detached portions of the body, they were soon cured of their prejudices, and convinced of the indispensability of dissection ; in turn they convinced their parents and relatives, who convinced the rest of the people ; at length, from mere toleration, we were afforded actual encouragement, and finally, *Ibrahim Pacha and his Ministers of State assisted at a lecture on practical anatomy.*"

Whatever M. Clot's faults may be, and his advocacy of his patron has been carried to a reprehensible extent, he is unquestionably a man of genius.

MR. HAMILTON ON PARTIAL RUPTURE OF NERVES.*

After relating some cases, Mr. Hamilton observes :—In these cases the cause of the injury was pretty nearly similar, the part having been put violently on the stretch ; a sense of something having broken was followed by pain, referred to the anatomical position of a nerve, but besides this, parts supplied by branches of the nerve are affected with paralysis of sense and motion, leaving diagnosis of

* Dublin Journal, September.

injury of the trunk of the nerve extremely probable. Another symptom of uncommon interest in Essay M'Mahon's case is the alteration in the temperature of the hand. The extreme coldness observed in this case I have seen in many others where a nerve had been injured, and is mentioned by Sir B. Brodie as among the symptoms of local hysterical effections of the joints. It is not merely the sensation of cold experienced by the patient himself, but an absolute diminution of temperature, attended with a mottled bluish appearance, and sometimes an oedematous tumefaction of the part. The coldness is usually not persistent, but alternates with intense heat, which last sensation is infinitely more distressing than that of the cold. The hot alternation appears occasionally to obey certain laws, coming on at two periods in the day as hectic does, viz. about two or three o'clock in the day, and again at bed time. The part is flushed, and sometimes a perspiration breaks out in it, and it literally smokes, the rest of the body being natural.

BENJAMIN FRANKLIN'S ESTIMATE OF ANIMAL MAGNETISM.

Franklin thus writes to M. De La Condamine.

You desire my sentiments concerning the cures performed by Camus and Mesmer. I think, that, in general, maladies caused by obstructions, may be treated by electricity with advantage. As to the animal magnetism, so much talked of, I must doubt its existence till I can see or feel some effect of it. None of the cures said to be performed by it have fallen under my observation, and there being so many disorders which cure themselves, and such a disposition in mankind to deceive themselves and one another, on these occasions, and living long, has given me so frequent opportunities of seeing certain remedies cried up as curing every thing, and yet soon after totally laid aside as useless, I cannot but fear that the expectation of great advantage from this new method of treating diseases will prove a delusion. That delusion may, however, in some cases be of use while it lasts. There are in every great, rich city, a number of persons, who are never in health, because they are fond of medicines, and always taking them, whereby they derange the natural functions, and hurt their constitution. If these people can be persuaded to forbear these drugs, in expectation of being cured by only the physician's finger, or an iron rod pointing at them, they may possibly find good effects, though they may mistake the cause.*

I have the honour to be, &c.

B. FRANKLIN.

—*Dublin Med. Press*, July 21, 1841.

SPURIOUS OPIUM.

Mr. Mason, at the Meeting of the Pharmaceutical Society, on August 11th, made

* In writing to Dr. Ingenhousz, some time afterwards on this subject. Dr. Franklin said, "Mesmer is still here and has still some adherents and some practice. It is surprising how much credulity still subsists in the world. I suppose all the physicians in France put together, have not made so much money, during the time he has been here, as he alone has done. And we have now a fresh folly. A magnetiser pretends, that he can, by establishing what is called a *rappont* between any person and a *somnambule*, put it in the power of that person to direct the actions of the *somnambule*, by a simple strong volition only, without speaking or making any signs; and many people daily flock to see this strange operation."—*Spark's Life of Franklin*.

a report on a sample of spurious opium, which had lately been offered to the trade by a person calling himself a drug broker. It had been sent to him only a few hours ago by Mr. Lescher, and from the experiments which he had made upon it, he had not been able to detect any appreciable quantity of morphia, and but a trace of meconic acid. He thought it possible that it might be a mixture of a very small proportion of bad opium with the refuse of a morphia manufactory. He intended to prosecute his experiments further, but had fully satisfied himself of its entire worthlessness. Mr. Morson hoped that the circumstance would serve as a sufficient example of the impropriety of purchasing drugs of this description from strangers, since those who do so have no reason to complain of any imposition which may be practised upon them.

The spurious opium, Mr. Jacob Bell informs us, was in globular masses covered with leaves, had rather the appearance of Constantinople or Smyrna opium; when cut it was not unlike ordinary dark coloured opium, and had a slight liquorice odour. It appears to become moist on exposure to the air.*

This enables us to introduce to our readers the Transactions of the Pharmaceutical Society, an excellent institution, in its infancy at present, but promising great things for pharmacy. We wish it every success.

MR. FERRALL ON THE ANATOMY OF CERTAIN PARTS WITHIN
THE ORBIT.

Mr. Ferrall writes a long paper on this matter.

1. *Anatomy of the Superior Eye-lid—its Continuity with Fibrous Tissues within the Orbit.*

Having placed, says Mr. Ferrall, the eyelid on the stretch, and fixed it in this position by chain hooks, an incision should be made through the integuments, commencing at the superciliary ridge, and extending vertically downwards to the ciliary margin of the lid. In examining the successive layers, those at one side only of the line of incision should be raised, and followed into the orbit; the other half of the eyelid should be left untouched, in order to preserve a view of the section itself afterwards. Having raised the common integuments, and orbicularis muscle, with which every anatomist is familiar, the part which now presents itself is a distinct layer of fascia. When this is followed carefully upwards, it will be found to pass into the orbit, and is the first element of the eyelid which can be traced into that cavity. Within the orbit, this layer corresponds superiorly to the lachrymal gland—the vessels—and the fat which has been described as pervading every portion of the cavity, and to be in contact even with the globe of the eye. Beneath this layer, however, or among any of the tissues between it and the eyeball, no adipose substance is to be found.

The next part which presents itself in this dissection is, the levator palpebræ muscle. The mode of insertion of this muscle, although exceedingly interesting, does not properly belong to the present inquiry. Beneath the levator palpebræ another fascia, similar to the former, is met with. This also passes into the orbit, and uniting at the edges of the levator, with that already described, seems to constitute a perfect sheath for its accommodation and support.

The part next in order is the tarsal cartilage. Tracing this upwards and backwards, we find that its thin or orbital margin is continuous with another fibrous lamina of greater strength and more remarkable appearance than those already alluded to. Following it into the orbit, it will be found to separate the supe-

* Pharmaceutical Transactions, edited by Jacob Bell, No. III.

rior rectus muscle from the globe of the eye, but presenting a well-defined opening, through which the tendon of the muscle passes as over a pulley, to be inserted into the sclerotic coat. The external or orbital aspect of this fibrous organ is cellular, and will scarcely prepare the anatomist for the very different appearance which it presents on its ocular surface, or that in contact with the globe of the eye. This inspection must, however, be made from the front or corneal aspect of the orbit.

2. *Anatomy of the Tunica Vaginalis Oculi, and Muscles of the Eye.*

As was before remarked, the inspection must be made from the front or corneal aspect of the eye. The following is the mode which I adopt. I divide both palpebræ vertically, and turning the separated portions backwards towards the forehead and cheek respectively, fix them in this position by hooks; the conjunctiva is next divided at its angle of reflection, where it passes from the internal surface of the eyelid to the ball of the eye. The incision being made, and the edges of the divided membrane separated, the anatomist is at once struck with the inaccuracy of all former descriptions of the parts. Zinn, Soemmering, and all former anatomists, describe the ball of the eye as being cushioned on fat, and in immediate contact with its muscles. Mr. Lawrence, no inconsiderable authority on this subject, and whose opinion may be supposed to represent that of all living anatomists, speaking of the anatomy of the conjunctiva, says, "thus, this membrane is reflected from the palpebræ to the whole circumference of the globe, forming a circular fold, which, at the point of reflection, corresponds to the fat of the orbit."

Having, however, separated the divided conjunctiva, we expose, not as has been described by anatomists, a cushion of adipose tissue, but a distinct tunic of a yellowish white colour, and fibrous consistence, continuous in front with the posterior margin of the tarsal cartilage, and extending backwards to the bottom or apex of the orbit, where its consistence becomes less strongly marked. By proceeding in the manner I have mentioned, the parts are displayed without any elaborate dissection. The sharp end of a probe, or director, will be sufficient to separate the ball of the eye from the new organ, by breaking gently the fine cellular tissue which connects them. Its colour is totally different from that belonging to its external surface, and it is here perfectly smooth, where the eye glides over it in its movements. The muscular substance of the recti muscles is no where visible, they lie on the outside of this tunic, which insulates and protects the eye in the most perfect manner.

The most beautiful portion of this mechanism, however, remains to be described. In the concavity of this tunic, and about half an inch posterior to its anterior or orbital margin, are to be found six well-defined openings, through which the tendons of the muscles emerge in passing to their insertion in the sclerotic coat, and over which they play, as over pulleys, in their course. The tendons are loosely connected to the edges of those apertures by fine cellular tissue, which opposes no obstacle to their gliding movements.

Mr. Ferrall attributes two important offices to this tunica vaginalis oculi—it invests and protects the globe of the eye, and it regulates the direction in which the muscles of the organ shall exert their force. It especially, according to him, prevents retraction of the eye.

3. *Inflammation of the Tunica Vaginalis Oculi.*

In common with fibrous tissues in other situations, this tunic is subject to inflammation and its consequences. It appears also to suffer from similar constitutional causes, and to present analogous phenomena, when it becomes the seat of disease. This may be combined with other affections of the orbit; and it may be the primary affection, and the point of departure from which the diseased action may spread to the other fibrous layers in the orbit, and finally reach

the periosteum; and the attack may even be limited to the tunica vaginalis oculi—that it may here produce a train of symptoms of the most dangerous kind, and which have been hitherto supposed to reside in the periosteum, because the existence of other fibrous membranes in the cavity was not suspected. Presuming that there were no other tissues in the orbit, to which to attribute the disease, practitioners naturally referred the majority of cases to one or other of those with which they were acquainted. The solution of such cases would have been less difficult, if our clinical researches were based upon a more correct knowledge of the structures actually existing in the orbit.

Mr. Ferrall relates two cases, for which we refer to our contemporary.

Mr. Ferrall quotes the following passage from M'Kenzie, to tack to it an ingenious commentary.

“‘It sometimes happens,’ says Mr. M'Kenzie, in his valuable work on Diseases of the Eye, ‘that the cellular membrane of the orbit does not suppurate. On the subsidence of the acute symptoms, the eyeball, in such cases, is found to be deprived of its power of motion, is protruded, or has even become amaurotic from the pressure it has undergone.’

From what I have observed, I am induced to believe, that the real cause of the motionless state of the eyeball in such cases, is adhesion of the globe to the tunica vaginalis, as well as consolidation of the several other fibrous layers which envelop it, and form the thecæ of the muscles. Adhesion of the tunica to the ball of the eye will, it may be supposed, be accompanied by abnormal union of the tendons of the muscles to the edges of the openings through which they pass in the natural state. The rotation of the eye upon its axis will, of course, be impeded in proportion to the interruption to their usual gliding movements.”

4. Abscess between the Tunic and Globe of the Eye.

When matter is formed in this situation, it may be distinguished from an abscess external to the fibrous tissues, by its pointing in the angle between the ball of the eye and lid. In this case the fold is obliterated, and the conjunctiva is rounded into the form of a tumour.

5. Tumours within the Tunica Vaginalis Oculi.

It will often require a good deal of discrimination to decide on the most eligible situation for making the incision for the removal of the tumours from the cavity of the orbit. The displacement of the eye, and the projection of the palpebra, will not always suggest the exact locality of the tumour. The eyelid may be thrown forward in such a manner as to make the practitioner suppose that the morbid growth lay nearer to the orbit than the eyeball, and very little covered by soft parts. If a careful examination be not premised, the external appearances may mislead him, and he may find that his incisions have to pass through a great depth of parts, to remove a tumour which actually lay in contact with the eyeball. Tumours may, in fact, form internal or external to the capsule of the eye, and the mode of operating should be regulated by an exact knowledge of their locality with respect to this tunic.

6. Extirpation of the Globe.

When the disease is confined to the globe of the eye, and does not involve the optic nerve or the orbital appendages, Mr. Ferrall suggests the following operation.

The conjunctiva being freely divided, the six tendons may be snipped across with a scissors one after another, where they emerge from the tunic. The eyeball will then be easily detached by a probe or director passed freely around it; when one step alone would remain—the division of the optic nerve. When we recollect that the roof of the orbit is occasionally found to be as thin as paper in

some parts, it will appear most desirable to avoid stripping it of its coverings, by operating within this second orbit, or proper fibrous socket of the eye.

CASE OF RETRACTION OF THE TESTICLE TO THE ABDOMINAL RING.

Dr. Murphy, of Liverpool, relates the following case.

August 20, 1838. A foreign gentleman, æt. 30, was suddenly seized with the following symptoms: an excruciating pain in the right groin, increased on the slightest motion of the corresponding lower extremity; a tumour larger than a marble, and sensible to the slightest pressure, is found at the external ring; no impulse is communicated to it by coughing; the testis is absent from the scrotum, a circumstance before noticed.

He is subject to this attack five or six times in the year; the pain continues from ten minutes to an hour, and then suddenly subsides, leaving him perfectly well. When the pain is more severe than usual there is vomiting.

A large dose of laudanum was prescribed, and an exhausted cupping-glass applied over the tumour. The pain ceased in a few minutes, after having continued more than twenty. When the cupping-glass was removed he walked about; the testicle had descended, and the chord, which was larger and softer than usual, felt as if it was varicose, but could not be lessened by pressure either upwards or downwards. A very eminent surgeon considered it hernia; but he had never seen him during the attack.

My impression, says Dr. Murphy, of the disease was, that the testicle was attached to the omentum, by which it was occasionally retracted to the orifice of the ring. A nicely fitted truss was applied over the external ring. Fifteen months have now elapsed without a return of pain. I have a distinct recollection of having read of a similar case, and the sufferer, I think, was the celebrated Zimmerman. If the truss failed in warding off these attacks, he gave his consent to permit me to cut down on the chord and divide the omentum, or even the chord, should I deem it necessary.*

DR. MACARTNEY'S IRRIGATING APPARATUS.

To keep a limb, or part, continually wetted, Dr. Macartney has contrived an apparatus expressly designed for irrigation, by means of which, water of any requisite temperature can be employed, and conveyed to the affected part underneath the bedclothes. The apparatus consists of a box made of zinc, something like a fracture-box, in which either the upper or the lower extremity of the patient may be placed. The water, or a medicated fluid, is carried in a flat tube, which at one end is connected with the reservoir, and the other end projects through a slit in the upper edge of the box. The tube contains a strip of coarse woollen cloth, which is broad at one end and pointed at the other. The broad end is received by the vessel that contains the fluid, and the pointed end either rests upon the dressings of the affected part, or is suspended immediately over them. The water is taken up by the strip of cloth, and carried along it on the principle of capillary attraction, or in the manner of a syphon; and thus a continued supply of water is conducted to the part affected, without inconvenience or exposure to the patient. In order to get rid of the fluid, there is a concave bottom, perforated with large holes, through which the fluid passes into the

* Dub. Journ. July, 1841.

inferior part of the box, and from which it is conveyed by a tube into any vessel that may be placed outside the bed for the purpose of receiving it. The perforated bottom, for the sake of cleanness, is made to take out; and there is a soft cushion, covered with painted linen, on which the limb rests, and consequently the whole is not kept wet.

The quantity of fluid which may pass can be regulated by placing the vessel or reservoir containing the water either higher, or on the same plane as the patient's bed. If placed high, so much as three gallons of fluid may be supplied in the course of twenty-four hours. If warm water be required, as in cases of strains and lacerated wounds, the temperature of the reservoir may be kept up by means of a spirit lamp.

The irrigating machine is made and sold by Messrs. Weiss and Son, instrument makers, 63, Strand, London.

CROTON OIL IN NERVOUS DISORDERS.

Mr. Cochrane has communicated some cases to the *Edinburgh Monthly Journal*,* illustrative of the virtues of croton oil. We shall select one.

"In December 1839, I was called to attend a female patient, whom I found in bed completely prostrate, and apparently insensible to every thing around her. In fact she was completely comatose,—her pupils were greatly contracted, her pulse could scarcely be felt, and, in fine, she seemed all but sunk into the sleep of death. The remedy which I employed in this case was the croton oil, in combination with mucilage and castor oil, thus proportioned:

R. Ol. Tiglii, gtt. viij.

— Ricini, ℥ij.

Mucil. G. Arab. ℥i. Misce bene.

Sign. Enema. To be administered in a quart of gruel.

Though I employed the above potent remedy, I must say, I scarcely expected any good to result from it; but to my great joy and satisfaction, it had a most beneficial effect upon the patient, not by producing an alvine torrent, but by occasioning a very copious discharge from the bowels per anum, as well as from the stomach, by vomiting, together with a return of sensation and motion, and the use of her mental faculties. Indeed, the effect of the medicine was truly astonishing, for when I left her, she seemed all but dead. On my second visit, only a few hours afterwards, she was able to sit up in bed and converse with those around her."

It appears to us that cases of this kind are reported too loosely, to afford as much assistance to practical medicine as they might. Nothing is said of the state of the bowels prior to the administration of the croton oil. Yet it is clear that their condition must exercise a paramount influence on the prospects of advantage from the remedy. Such a state of nervous system, as obtained in the case related, *might* co-exist with relaxation of the bowels, as well as the reverse, with an irritable state, forbidding purgation and purgatives, as well as with one demanding them.

ELATERIUM AND AMMONIATED TARTRATE OF IRON IN CHOREA.†

Mr. Wardleworth thinks that the indications for treatment in chorea are, 1st.

* July, 1841.

† Ibid.

to unload the bowels, if a torpid condition of them exists; and, 2dly, to restore the tone of the stomach and intestines. The purgative formula which he has found most efficacious is the following:—

R. Ext. Elaterii, gr. j.

Pulv. Jalapæ, gr. xxxvj.

— Zingib. gr. xxiv. Misce et divide in chart. xij.

capt. j. quarta quaque horâ donec alvus soluta fuerit.

After the bowels have been fully acted on, he prescribes that important therapeutic agent, the ammoniated tartrate of iron,—a remedy which, though little known, still possesses chalybeate properties far superior to any other preparation of iron, with the exception of the magnetic oxide. Its pleasant taste, and perfect solubility in water, render it exceedingly agreeable even to the most fastidious.

He commences by giving three grains three times a-day (in quovis vehiculo,) the dose to be gradually increased to five grains, which will generally be found sufficient to subdue the disease, care being taken at the same time to keep up a free action of the bowels, combined with a light yet nutritive diet. Free exercise in the open air, after the disease appears to decline, is essential to the patient's perfect recovery. From a fortnight to three weeks is about the average time required by the proposed treatment to subdue the worst forms of chorea.

TREATMENT OF TROPICAL DYSENTERY.*

Dr. Lewins, of Leith, has contributed a paper on this subject to our Northern contemporary: the paper will repay perusal. The gist of it—the treatment recommended by the author—we extract.

If, from any circumstances, the symptoms at their outset have been neglected, blood-letting, topical and general, is most imperatively called for. If pain increased on pressure, furred tongue, and other evidences of inflammation exist, no more potent remedial measures can be employed, but if such symptoms be absent, as they will be in the great majority of instances in the early stage, they are unnecessary, and will generally be found to produce no decided immediate relief to the tormina, tenesmus, and diarrhœa, the three most distressing symptoms. After blood-letting, three grains of opium, combined with large doses of calomel, are usually administered, and small opiates and starch injections are frequently employed. Of these, and particularly of the enemata, Dr. L. speaks in the highest terms, having found them to produce much greater relief than the blood-letting. Occasionally it relieved for some hours the urgent symptoms, and even where such success did not attend its employment, and where, from the irritability of the rectum, it was soon discharged, the tenesmus was often considerably mitigated. The introduction of the pipe sometimes however produced irritation, and occasionally forced the patient to stool. The large mucilaginous injections of the Continental School are justly reprobated by our author. Dr. Lewins thinks full purgative doses of sulphate of magnesia, or castor oil, often hazardous and inexpedient in the early, though beneficial in the later stages. The diet should be strictly antiphlogistic; rice water used lukewarm is perhaps the best thing the patient can take. If leeches be applied, either for inflammation in the liver or intestines, the patient should be strictly protected from cold during the operation. The entire class of astringent remedies, so useful in the diarrhœa of Europe, act as irritants, and are wholly inadmissible.

* Edinburgh Monthly Journal, July, 1841.

Ipecacuan and various other remedies have been much lauded by men of the greatest experience. Dover's powder is undoubtedly serviceable, particularly if the disease becomes chronic, and the same remarks apply to the terebinthinate liniments. A warm and equable temperature is of great importance in the cure of this affection, and warmth to the belly ought constantly to be applied. This treatment, which was the one I first adopted, proved tolerably successful. The pain was lessened, inflammation warded off, the tenesmus and tormina were relieved, and the stools became less frequent. The quantity of opium and calomel used during the progress of the disease is sometimes very considerable, though it is by no means necessary to induce salivation to effect a cure. During the early part of his convalescence, the patient is very desponding, haggard, hypochondriacal, and very weak. He is very restless, there is great want of tone in the digestive organs, and an aching void is complained of in the abdomen, to relieve which, Battley's sedative liquor at bedtime is a most excellent remedy. It calms the nervous system, procures undisturbed sleep, and acts as a tonic, and is unquestionably to be preferred to any other preparation of opium. The diet should at first be strictly farinaceous. Laxatives are now required, and as castor oil even in small doses sometimes acts violently, and always increases the derangement of stomach, rhubarb is a preferable medicine. The improvement is frequently very slow, the greatest care being requisite to prevent errors of diet, and the abdomen should be well protected by clothing from vicissitudes of temperature. If at this stage there should be signs of subacute inflammation in the abdomen, leeches must be perseveringly applied, and subsequently, as a safeguard, an eruption should be excited by an ointment composed of one ounce of axunge, half a drachm of the tartrate of antimony, and five grains of the bichloride of mercury,—the eruption being kept out for several weeks. In severe cases of dysentery, complete recovery often takes place very slowly; the digestive organs are much weakened, diarrhoea comes on from the slightest causes, and occasionally for months there is a slight discharge of blood along with the stools, which all the remedial measures you may employ are unable to check, and which is at length cured by change of air. The rapid recovery which takes place when the patient is restored to his native climate, is frequently most surprising and gratifying.

But Dr. Lewins praises another method as superior to the foregoing. It was that pursued by Dr. Heyn at Java. His treatment consisted in administering, at the very outset of the disease, a scruple of the chloride of mercury. According to his experience, this powerful pharmaceutical agent, when employed in small doses, acts as an irritant, but when given in large quantities, has so decided and immediate an effect, as to merit the name of a direct sedative. I have seen soldiers brought into hospital in the most severe agony, discharging mucus and blood at very short intervals, and labouring under the most aggravated form of the disease. On administering a scruple dose of calomel, the most marked and gratifying amelioration took place. The tormina, tenesmus, and diarrhoea almost instantaneously cease, a feeling of comfort takes the place of the most intense suffering, the countenance brightens up, the pulse, heat of tongue, and thirst, when present, are diminished, and in short all the distressing symptoms are much alleviated. This remission is, however, often followed by an exacerbation at the end of six or eight hours. Re-action is established, the pulse beginning to rise, and, if no steps are taken to prevent it, the whole train of symptoms return with almost undiminished violence. If the diarrhoea and tenesmus come on, no hesitation need be felt in repeating the scruple dose of calomel, but if the physician be on his guard, he may often prevent this, by active measures whenever the tormina and borborygmus are apparent. This is the critical moment, and a scruple of calomel divided into four doses, administered every three hours, will often prove sufficient to prevent re-action, and overcome the disease. If the malady be obstinate, five grains of calomel should be given boldly every

three or four hours, and under this treatment the medical man will seldom be disappointed. When the bowels have been quiet for thirty-six hours, a scruple of the powder of rhubarb was found to be most serviceable. The stools which followed were fetid, dark-coloured, fluid, sometimes bloody, but voided with little or no pain. If symptoms of inflammation appeared in any of the abdominal viscera, which rarely happened, leeches were used; but a blister was almost invariably applied to act as a safeguard, and to relieve the remaining irritation in the intestines. The superiority of this treatment over the other is, he thinks, unquestionable.

EXTRACTION OF FOREIGN BODIES FROM THE EAR BY SYRINGING WITH COLD WATER.*

Mr. Carpenter, of Castlecomer, thus writes to our Dublin contemporary: The first case brought to me, some years back, was one in which the foreign body was a garden pea, which, as is usual, was pushed in as far as the tympanum by the interference of the child's friends. The instrument I selected was a very small forceps with blunt points, with which I could catch the pea, but could not move it, and, on endeavouring to do so, caused intolerable pain. It immediately occurred to me to inject cold water with force, in order to at least displace the pea, and perhaps thereby render it more manageable—I did so with a two ounce syringe, and found the pea so far displaced as to lie at the orifice of the meatus, whence I removed it without further trouble or pain to the child. Since that I have extracted many peas in the same way—in some instances they have lain at the orifice, and in others been forced out completely. So far I was satisfied that peas could be removed by the above method, and will admit that I felt anxious to have an opportunity of trying my hand on something of more difficult extraction. About six months back that offered—the substance was a pebble of a most irregular shape, and so large that I was surprised how the child could have borne to introduce it—the meatus was not inflamed; but the pebble was so far in, and so wedged in its place, that to touch it ever so lightly with any instrument, was almost enough to throw the child into convulsions. I almost despaired of succeeding with the syringe, but made the trial, and not having a two ounce one at hand used a pint one—the first injection failed; but, while using a second, the pebble, much to my satisfaction, was forced out on the napkin held under.

In the last case brought to me I could hardly feel the foreign body with a silver probe, nor could the child's parent tell me what it was; however, knowing it to be small, I used a small sized syringe, and by one injection had a grain of oats at the orifice of the meatus.

MR. DONOVAN'S IMPROVED METHOD OF PREPARING VINUM FERRI.†

Take of the best hock one pint; common rust of iron of the shops, well levigated, two ounces. Introduce both into a matrass, which plunge into a water bath maintained at the temperature of 100°. Constantly agitate the matrass for an hour; then remove it from the water, and the next day filter. The colour of this vinum ferri is a very deep greenish brown, almost black when the volume is

* Dub. Med. Press, June 30, 1841.

† Dub. Med. Press, June 23, 1841.

great: its taste is ferruginous, agreeably and highly vinous; it produces a pleasant warmth in the stomach, and never sickens. In its effects it must be tonic, diuretic, emmenagogue, anthelmintic, and carminative. It does not, in a moderate dose, excite.

No other wine than hock will afford a preparation possessing these virtues. The dose for an adult may be three or four drachms thrice a day; in smaller doses, it is of little use. If it is to be exhibited in combination with a bitter, it agrees well with colombo or gentian.

By this method, in one day, we obtain a far better preparation than is procurable by the processes of the pharmacopœias in two months. The iron exists in it chiefly in the state of protoxide.

ROYAL COLLEGE OF SURGEONS IN LONDON.

The Council proposing to publish, in the course of the ensuing year, a Volume, to be entitled

"Transactions of the Royal College of Surgeons in London,"
invite, from the Members of the College and other scientific persons, communications relating to the improvement of anatomical and surgical Science.

The subjects proposed to be included in this Publication are specified in the following extract from the Ordinances of the College:—

"The Transactions shall consist of

Original Communications on Surgical subjects.

Collegial and Jacksonian Prize Dissertations, deemed of sufficient originality and merit.

Original Memoirs on Human Anatomy.

Original Memoirs on Comparative Anatomy.

Anatomical Monographs of rare Animals, dissected in the Museum of the College.

Explanations of, and Commentaries on, important Preparations in the Museum, with illustrative Plates.

Statistical Reports from Hospitals."

It is requested that Papers intended for publication in this Volume may be transmitted to the President, at the College, on or before the 1st of May, 1842.

EDMUND BELFOUR,
Secretary.

28th July, 1841.

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EXTRA-LIMITES.**CHUSAN.**

[Communicated by Sir W. BURNETT.]

EXTRACT FROM THE NOSOLOGICAL RETURN OF H. M. SHIP VOLAGE,
BETWEEN THE 1ST JULY 1840, AND THE 30TH SEPTEMBER 1840.

On the 28th July, we arrived at the new British possession, on the coast of China, "Chusan"—an island situated in the 30th degree of North latitude, and about 9 or 10 miles from the nearest part of the main land of China. It had been in the possession of the British since the 6th of the same month.

The capital town of the island is named "Ting-Hae," about an English mile from the sea-side. There is a small suburb close to the shore, between which and "Ting-Hae," country intervenes, flat, intersected by canals, and overgrown with rice and millet seed. Ting-Hae is also built on a portion of this flat—and the flat extends from it, in every direction, towards the country three or four miles; except two isolated spots, where the ground is naturally raised, the whole of this flat is so far below the level of the sea, that even the roofs of the houses are not to be seen from the deck of a frigate. The part where the suburb is built is somewhat higher, and forms an embankment against the sea, formed, I have no doubt, by the hand of man, but cemented into the appearance of nature by long lapse of time, and the numerous embankments pervading many parts of the neighbouring islands bear me out in the statement—so that I am satisfied the sites of Ting-Hae and the adjoining country have been, in some remote period, cut off from the sea.

In the month of July the country was in the height of cultivation in its various stages—no barren spot to be seen. At a short distance, the view of the country was like a vast collection of garden-grounds.

Much of the soil of the flat around the town was artificial, and in its then moist state had been evidently lately flooded by a most perfect system of irrigation, so that a stick penetrated this soft and rich soil to the extent of 14 or 15 inches.

Ting-Hae itself is a most wretched town, occupying a circuit over three miles, surrounded by a wall built of stone and brick about a foot and a half thick, inside of which is a mound of earth, supported in its outer circuit by the wall. On the inner side, this mound forms a slope, with a plain on the top. The wall then ascends forming a parapet, breast high, in which are numerous embrasures for matchlocks and archery, and a few longer ones near the gates for guns—a few also of which, old and honeycombed, were fixed there, secured on wooden stands, such as are used in England to rest porter casks on. The height of the wall in its outer circumference varies from 25 to 15 feet, in many parts dilapidated. The houses are low, none higher than the wall. Attached to each house is placed, without regard to decency, a necessary-house—in some parts two or three to each, all open and exposed. The streets are narrow, paved on either side, and in the centre is a gutter covered by a flag-stone, ill-concealing either the smell or view of subjacent filth, now disgusting to look at, and perfectly nauseating by its stench. Every house was also provided with one or more immense earthen jars, also receptacles for filth and excrement in its more fluid form. All these things, taken in connexion with the surrounding soil,

prove that manure of every description was carefully preserved, the ingredients for which were, though then in an incipient stage, fearfully, as far as health was concerned, abounding and rapidly decomposing. Exuberant vegetation was already shooting from the muddy banks of the canals; and, even in the midst of the stagnant waters of which, was also to be seen some show of it. All this of course, unless provided against, was rapidly to end in rottenness. The thermometer was varying from 84° to 94°, and the atmosphere was, in the more confined and less ventilated parts, already sensibly loaded with deleterious effluvia, which the shockingly pent-up position and arrangement of the town rendered it difficult to dissipate.

In whatever part of the town one turned, the decomposition and consequent stench were offensive. If, in three weeks of July, such was the state of things, what must August and September produce? Without some great change, surely epidemic and contagious disease; and such has been the fact. That the state then existing should be changed, there can be no doubt, though the mode of doing it admits of some. At least before leaving "Ting-Hae" I saw people attempting to cleanse the town in a manner which I should not have done. I saw them clearing some of these sinks of filth, with the water still in them, which I think must tend to further putrefaction.

The sickness (intermittent fever and dysentery) among the troops has been very great, and mortality to a fearful extent is now among them. Fever and dysentery have also pervaded the fleet, which certainly cannot be attributed to the causes above enumerated.

I do not consider that extensive sickness is ever, or hardly ever, to be attributed to one sole, isolated, cause, and I believe that the sickness now at Chusan is not to be attributed to those causes above (bad as they are) alluded to.

That low swampy grounds, such as these, produce intermittent fever, one need not come to Chusan to be assured of; but we have frequent assurances that exhalations from putrid and corrupting matter may be dwelt among without endemic and widely-spreading fatal dysentery. The same disease pervading those both on shore and on ship-board, may be attributed to the same causes, many of which were common to both services. The water, for instance, with which we were both supplied for the first weeks after the occupation of Chusan, was decidedly bad: it was procured among the swampy ground, smelt badly, and had a rotten putrescent taste.

The evaporation from the decomposing manured rice-grounds, spread through some considerable space of the atmosphere, so as to affect numbers within its influence more or less.

The climate was new to all—so far the causes were common to both services. Those on shore were of course, from their proximity, more liable to feel the effects in a far more intense degree than those on ship-board, and more remote; and besides these causes, to those on shore, were to be superadded to others. The supply of fresh provisions to the troops was scanty and bad, and even the salt meats, both beef and pork, were so bad as to be considered unfit for use.

Again, on taking possession of Chusan, one of the most abounding things there, was "sam-shee," an ardent spirit procured by fermentation from rice and millet-seeds, more generally the latter. This is a most deleterious spirit; its effect in producing drunkenness is most rapid, and the drunkenness produced by it, is attended in the first degree with furious madness, and afterwards with corresponding depression, or rather horror, and almost invariably leaving a low fever of some days' duration after it. This spirit, I much fear, was used by the troops to a very unmeasured extent. The sailors had not the same opportunities.

Another cause acting on those on shore, which we had not, was independent of the noxious effluvia, the confined and ill-ventilated situation of the town.

Their duties were not, I should say, so heavy as those on ship-board.

I have gone thus far out of the direct path of the immediate state of the health of the ship's company, as I think it is probable the general state of health of the force may become a matter of public importance in England, and my having been on the spot, and knowing personally of all the circumstances I have narrated, may render such detail, Sir, agreeable to you. The Chusan Islands, I should say (remove the causes given above), is a fine and healthy climate. The Volage left the Chusan Islands on the 1st August to proceed northward on the Coast of China to the gulf of Pe-chili-li. The highest latitude we attained, was the 40th degree. Along the coast we had the weather generally fine, and temperate, the thermometer varying during the period (August and September) from 60° to 78°—these being the extremes—the average 72°. The winds along the coast hung steadily to the southward and westward and the entrance of the gulf—this being the direction of the regular monsoon: and though the monsoon is said not to extend beyond the 28th degree of latitude, yet the period of July or August has been always selected to make the passage up to the Gulf of Pe-chili-li, and in the few trials that have been made, the southerly winds have invariably blown home to the entrance, while, on the other hand, the passage down again to the South, has been always made with a favorable or North wind between the close of September and April, that is, during the period of the northerly monsoon. We returned at the close of September and found it so.

The squadron, which proceeded to the gulf, consisted of the Wellesley, with the flag of Admiral Elliot, the Blonde, Volage, Modeste, Pylades, a steamer and two transports. In all these ships, except ourselves, abdominal disease prevailed extensively—in some instances assuming the dysenteric form, and fatal.

I saw one of these cases, the second Lieutenant of the Modeste. He was, when I saw him, so far advanced as to have no hope, and died in a few days. I attended a post-mortem examination of the body. Inflammation of the mucous coat, from the stomach to the rectum, with its effects from the first stage, to perfect gangrene existed. The liver was pale, otherwise healthy. It was a pure case of dysentery.

He, with Lord Jocelyn on board, who filled the office of Military Secretary to the Admiral, happened to be under my care. Lord J. had a complicated form of disease—very severe intermittent, but which only existed as a secondary disease. He had decided congestion about the liver—dysentery intermitting with a very confined state of the bowels—a great appetite alternately with loathing of food. I attacked the liver first, deeming that the root of the disease lay there. Had 30 leeches on with good effect, and slightly touched him with mercury: after which, tonics did a great deal. He left the ship pretty well; but when he got any thing well, he was so very careless, that he had frequent relapses. I recommended him strongly not to remain in the Tropics, and he has been since invalidated.

The Nosological Return shews 36 cases of abdominal disease, and indeed those cases under the head of Fever had generally also some determination to the visceral organs. None of them were marked by any peculiar severity, and all now are doing well.

I had also under my care a Chinese, the master of a junk, who was shot by one of our seamen. The master had made a complaint of the seamen for pillaging on board the junk—the seaman belonged to a boat, which boarded and detained the junk. The officer of the boat threatened to complain of the seaman—the seaman took a loaded musket and fired at the Chinaman, who was distant from him six yards; the ball took effect on the head, struck him about the site of the posterior inferior angle of the parietal bone on the right side, penetrated the bone, passed directly through the brain for the space of about two inches, and passed out again through the vitreous portion of the temporal bone. I saw the man half an hour after the injury; he was quite insensible, with dilated pupil; on re-action setting in, I took blood from the arm, during the abstraction of which, he began to show signs of consciousness. The wound, at either end of

which were portions of brain coming away, I lightly dressed with simple dressing and cold wash, gave smart cathartics, and enjoined perfect quietude. He was able to be up and walk about in two days, and, in three days, was removed on board the *Volage* (we being ordered to sea). We got into a gale of wind, the deep rolling of the ship hurt him much, and he was unable to rest in a cot—I tried him, but he rolled out. After this he began to sink, and expired twelve days after the injury. He was conscious to a couple of days to his death.

I have had another, and almost equally extraordinary injury of the skull, only with a different result, as he is doing, and likely to do, well. Mr. Olive, the second Master of the ship, while in a gale of wind lying at anchor, was attending the compressor in veering cable. In bringing-to to check the cable, the tackle gave way, the non-compressor recoiled with tremendous force, and in its sweep, struck Mr. Olive on the left temple. He was thrown, insensible. I saw him immediately, and found a depression big enough to put one's fist into, deep as an oyster-shell. There was no external wound; tumefaction coming on, convinced me some of the large temporal branches were ruptured. Without waiting, I instantly took 40 ozs. of blood, which checked further effusion. He lay insensible five days—is now up and able to walk about—his intellect changed, but I think *not much deteriorated*—the tongue, right hand, and arm partially paralysed. I purpose invaliding him and giving him a certificate for the wound.

I have the honor to be, Sir,

Your obedient humble Servant,

B. VERLING, Surgeon.

PLAGUE IN A BRITISH MAN-OF-WAR, NOT CONTAGIOUS.

Admiralty, 26th April, 1841.

A CIRCUMSTANCE has occurred regarding the health of two ships in the Mediterranean Squadron of so unusual, and I may add, unexpected a nature, as will I hope justify me in bringing it under the notice of the Board of Admiralty.

It is known to their Lordships that the *Zebra* was driven on shore in a gale of wind at Kaiffa on the Coast of Syria on the 2nd of December last, and the crew having been enabled to land, were lodged in the town, which is described as being most filthy with all kinds of abominations; it was not however known that any febrile disease prevailed at Kaiffa, but several cases of plague appeared at Acre, at a little later period:—some part of the crew were afterwards employed in assisting to repair the fortifications at St. Jean d'Acre, where, the surgeon states, "they generally enjoyed good health, with the exception of a few cases of fever, two of which appear to have died with malignant symptoms;"—previous to this, however, there had been ten cases of continued fever in the *Zebra*, while on the other parts of the Coast of Syria, all of which recovered, and like the other ships of the Squadron, nine or ten had been attacked with dysentery, one of which died.

On the 17th February the *Castor* arrived at Kaiffa with orders to break up the *Zebra*, and embark her crew. The *Castor* had in like manner previously suffered from fever and bowel complaints, but not to any extent, and only one death had taken place from the latter disease.

On the 20th February, fourteen men belonging to the *Zebra* were sent on board the *Castor* in exchange for a party of artificers, and about five days previous to this, the party employed at St. Jean d'Acre returned to the *Zebra*.

On the evening of this day, William Thomas, a seaman belonging to the *Zebra*, who had been employed in the boats at Acre, was attacked with fever, and

died on the afternoon of the 22nd, and between that day and the 25th, thirteen more cases were added, including an artificer from the *Castor*. The whole of these, with the exception of Thomas, who died previously, were immediately removed on board the *Castor*. The remainder of the crew were embarked on the following day, when the *Castor* sailed for Malta.

The disease with which the men sent from the shore had been attacked, now manifested unequivocal symptoms of Plague, and every means was used to prevent intercourse with the healthy, eleven men being selected to attend solely upon the infected persons.

It is satisfactory to state that not one of these men were attacked with Plague, nor were any of the *Castor's* people, except the artificer, who had been landed and lived with the *Zebra's* men at Kaiffa, though there were at least twenty-four persons, including four medical officers, fully exposed to the contagion during its continuance on board the *Castor*.

In addition to the usual symptoms of a highly malignant fever, which need not be recited here, these men had all glandular swellings in the groin or axilla, and one had carbuncle, which sloughed extensively, and several of the buboes suppurated.

I beg to add the two first Cases, shewing the progress and symptoms of the disease.

Kaiffa Bay, 22nd February.

John Barry, first class boy, aged 19, complained this morning of severe headache, burning heat and dryness of skin; eyes watery and dull; countenance depressed; great languor and listlessness, and a disposition to lethargy, with some confusion of ideas; indistinctness of memory, and hesitation in answering questions; prostration of strength, and pain in the back; tongue white and dry in the centre; pulse 100, rather full; says he was taken ill last night.

23rd. Passed an extremely restless night; great prostration of strength; countenance more lively and less lethargic; there is an enlarged gland in the upper part of the thigh, the pain of which he complains greatly of; it is painful to the touch, but there is no external inflammation; pulse 100, irregular and easily compressed; tongue dry in the centre, with two fervid streaks on each side; towards the apex there is a small shining spot, about the size of a shilling, which has the appearance a red congested part has, the moment blood has been pressed from the cutaneous vessels.

P. M. The pain in the groin is his great source of complaint; there is decidedly less stupor and lethargy, and his ideas are now quite collected; eyes watery, but expressive; pulse small and thready; occasional vomiting.

24th. Moaned a great deal in the night; complains very much of the bubo, which is slightly enlarged; the skin has become softer and the tongue moist, and he is perfectly collected and sensible. From this time the pulse gradually became weaker, and soon after 2 P. M. he was attacked by convulsions, then became comatose, and expired about a quarter before three o'clock.*

CASE 2nd.—John Terliven, carpenters' crew of H.M.S. *Zebra*, aged 29, was taken ill on the evening of the 22nd February, complaining of headache, slight pain of the back and limbs, with great weariness and prostration of strength, stupor and lethargy, with inclination to sleep, and impatience when aroused, answering questions in an abrupt manner; in short, there appears an utter indifference and apathy to everything around him. Eyes suffused, pupils natural; skin dry and harsh, but no preternatural heat; thirst; tongue smooth, dry in the

* This lad had returned from St. Jean d'Acre on the 12th February, and had attended a sick messmate who died that day under suspicious circumstances.

centre and tremulous, having the peculiar appearance described in the last case; pulse 100, small and irregular; the symptoms were preceded by shivering.

24th. There is less stupor, and he says he feels better; tongue moist; skin softer; pulse irregular; a bubo was discovered in his left groin, or rather in the upper part of his thigh.

25th. Last night the symptoms in general appeared more favorable, and he expresses himself better, and he has recovered from the state of lethargy. There is, however, a peculiar and indescribable appearance of anxiety about him; bowels rather relaxed, but he has the appearance of increased strength.

The pulse became weaker and was not distinguishable at the wrist for some hours before death; stimulants had not the smallest effect on the pulse, and, about an hour before he expired, he drew attention to his feet, which were cold and damp; he said he felt dead as high as his knees, and soon quietly departed, the bubo remaining stationary.

I beg to annex on the other side, a List of those attacked, with their commencement and discharge.

The preceding Narrative and Cases are taken from the Official Reports of the Surgeons of the *Castor* and *Zebra*, and I beg to add that I have purposely forbore to make any comments thereon, being convinced that the facts are of too important a nature not to command attention.

W. BURNETT,
Inspector-General, &c.

The Secretary of the Admiralty.

Commence- ment	NAMES	Age	Quality	Disease	When taken ill	Of what Ship	If employed at Acre for the entire period, or occasionally in Boats	Date of Discharge from Castor	Died	Duty	Conva- les- cent
1841 Feb. 23	John Barry.....	19	Boy	Pestis	On Castor	Zebra	At Acre all the time	26th Feb.	24th Feb.—at 4 a.m.		
"	John Terlevin...	26	Capt. Crew	Pestis	On shore	Zebra	Do. nearly all the time	26d "	26th " at 10h. 30m. a.m.		
"	Edward Epps....	17	Boy	Pestis	On shore	Zebra	At Acre in Dec. last	26d "	24th " at 11 30 p.m.		
"	Thos. Chaplain..	26	Ord.	Pestis	On shore	Zebra	At Acre all the time	26d "	.. .. .	Duty	
"	Wm. Powell.....	..	Artificer	Pestis	On shore	Castor	Artificer landed from Castor	26d "	27th Feb.—at 3 a.m.		
23	Stwt. Robertson..	37	Bl. Marine	Pestis	On shore	Zebra	Not at Acre	26d "	.. .. .		{ Conva- les- cent
"	John Roberts....	38	Qr.-Master	Pestis	On shore	Zebra	Occasionally in boats	26d "	26th Feb.—at 7h. 30m. a.m.	Duty	
"	Henry Boyd.....	16	Boy	Pestis	On shore	Zebra	At sea all the time	26d "	.. .. .	
"	Geo. Campbell...	23	A. B.	Pestis	On shore	Zebra	Occasionally in boats	26d "	2d Mar.—at 9 a.m.		
"	T. Knight.....	24	A. B.	Pestis	On shore	Zebra	Ditto ditto	26d "	26th " at 7h. 30m. a.m.		
25	John Cranfield ..	35	Qr.-Master	Pestis	On Castor	Zebra	All the time at Acre	.. .. .	8th " at 6 a.m.		
"	William Lambert	20	Boy	Pestis	On Castor	Zebra	Ditto ditto	.. .. .	7th " at 4 15 a.m.		
"	William Cook....	28	Bl. Marine	Pestis	On Castor	Zebra	Not at Acre	.. .. .	.. .. .	Duty	

Note by the Editors.

If anything stronger than this Document can be necessary to prove the idle fears of contagionists, it must be a sign in the sky, like that which Constantine shaped his course by!!

NEW HYDRAULIC MACHINE.

WE have seen the apparatus to which the following letter refers, and think it is a most ingenious invention, and well calculated to answer the objects for which it is intended.—EDITORS.

Ipswich, September 15th, 1841.

Dear Sir,—In your last, you ask me how your New Hydraulic Machine is approved of at the different hospitals. I shewed it at Cambridge Hospital to the house-surgeon and several others of the profession—they all expressed themselves astonished with its powers: next I produced it at the hospital at Bury St. Edmunds, and at the house of Dr. Hake, before Drs. Smith, Probett, Rev. Mr. Hastie, and several others of the committee—they will order one immediately you can send them testimonials of its approval by the Humane Society. At Norwich, Yarmouth, and at this place, all concur in approving of the instrument. Dr. Forbes, of Norwich, says, that not an hospital in England, or a ship in Her Majesty's service, should be without one.

It will be useless for me to proceed farther at present, as the sanction of the Royal Humane Society must be obtained before you can get orders.

I am, dear Sir,

Mr. READ,
Regent Circus.

Your's, &c.

H. PUTLAND.

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INTELLIGENCE.

DR. L. KONCKER.

The degree of Doctor of Dental Surgery has been conferred on Dr. LEONARD KONCKER, of Conduit Street, by the Baltimore College of Dental Surgery.

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